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Original Communications.

ARTICLE I.—*Civil Malpractice. A Report presented to the Military Tract Medical Society, at its Fifteenth Semi-Annual Meeting, Jan.* 14, 1873. By M. A. MCCLELLAND, M.D., Knoxville, Illinois.

(Continued from page 97.)

To emphasize the danger attending the use of the "initial" bandage, the following case is in point:

Steele v. *Newton:* Superior Court of Cincinnati, Nov. Term, 1856. This was an action to recover damages for improper treatment of a fracture of the lower end of humerus. Damages laid at $3,000. The defendant was an "Eclectic" practitioner of Cincinnati; and the Editor of a work entitled "Symes' Principles and Practice of Surgery," from which this case is quoted. "When stripped for inspection, it was found that motion of the elbow-joint was perfect. There was a visible decrease in the muscles of the forearm and partial contraction of the fingers. He stated that he sometimes scratched his hand so as to make it bleed without being aware of the injury. The contraction of the fingers was not more than is customary with those who walk with the hands swinging by the side."

PROF. R. D. MUSSEY, testified, "that he found the arm withered, and the general sensibility much impaired—results arising from diminished innervation. He inferred that the blood-vessels had been too much constricted by the bandages, thus obstructing the proper circulation of the blood in the limb. These results might have been induced by injury to the median nerve, but thinks the circulation was obstructed, and in consequence the blisters appeared. Fractures in the lower end of the humerus are very difficult to treat, and for which there is a variety of plans. He should have kept the forearm flexed on the upper-arm, at a right angle, and have been careful not to dress it too tightly. He should use some sort of a splint, though he could not at present specify the exact kind. He was of opinion that, if a fracture had existed in the case, it was probably an oblique fracture including the internal condyle. The elbow-joint is now in good condition, having its natural motion in all directions. He has not, however, seen similar results from such a fracture. The ulnar nerve, as well as the median, may have been injured."

Cross-examined.—He was not positive as to the direction of the fracture, nor was it always easy to judge so far as to form a positive opinion. All fractures of the os humeri, running into the elbow-joint, are difficult of cure. He was of opinion that a permanent injury, or a degree of deformity, is sustained in a majority of cases. The vesications in this case may be accounted for by the injury done to the nerves, but thinks that tight bandages are oftener the cause of such results. He has seen cases similar to this—had seen a case some years ago, where the forearm mortified in consequence of having been too tightly bandaged. Thinks that in this case the dressing may have been too tight. He was of the opinion that partial paralysis might be induced by too tight dressing, without gangrene necessarily ensuing. Erysipelas may follow such injuries, exhibiting itself in from twenty-four to seventy-two hours.

PROF. JESSE JUDKINS, testified, that wasting or withering may be a result of muscular changes or of nervous sympathy. If there had been a fracture of the arm, the reparation had been most complete. Was of the opinion that the inflammation had been very intense. The capillary circulation may have been arrested by too

tight bandages, the result of which would have been inflammation, erysipelas and gangrene. Injuries of the elbow-joint are always attended with complications, the nature of which *cannot* be always easily determined. The erysipelas complained of was, in all probability, induced by too tight bandages. The surgeon should see such a patient at intervals ranging from two days to one week.

Cross-examined.—Does not think that the injury of the median nerve alone caused the difficulty here presented. Thinks the bandages might have caused the erysipelas. Bandages cannot be put on tight enough to paralyze, without producing gangrene. He thought that a majority of fractures of the elbow-joint were completely cured. When elbow-joint fractures are complicated, the majority were not cured completely.

PROF. T. WOOD, testified, that he thinks present condition of the arm is the result of bandages too tightly applied. Could not discover evidence of there ever having been a fracture. Never met with such a result as this, except it had arisen from bandages too tightly applied. The median nerve did not supply all the fingers. He thought that the purple color of the hand, as testified to by plaintiff, arose from compression; the blistering being one of the first results of such compression. Paralysis may be induced without gangrene. No injuries of the elbow-joint are so completely cured as to leave no trace of them. Had known wasting of the arm to occur where the bone had sustained no injury.

PROF. G. C. BLACKMAN, testified, that he had examined boy's arm and had heard his statement, but from those sources had formed no positive opinion. The paralysis may be the result of the shock sustained at the time of the accident, or it may be the result of too tight bandaging, or from having retained the arm too long in one position. The blisters common to such fractures may follow in less than twenty-four hours where there is no dressing, and may be the result of the violence done to the soft parts at the time of injury. If erysipelas was, at the time, epidemic, it would almost certainly follow as one of the phases of such a case as the one under consideration, or even a less injury. He had no positive proof that the arm had been fractured, but he thought there had been a fracture of the humerus, involving the inner

condyle and injuring the ulnar nerve. These are bad fractures, and their true character is difficult to detect. He thought that the ends of the bones should have been put together immediately, inflammation or not. The bandages in such oblique fractures must be tied rather tightly, and the surgeon may use either the wooden or paste-board splints. Had known mortification occur in twenty-four hours from tight bandages. The blisters may have been the result of such bandages.

Cross-examined.—Could not say that the bandages in this boy's case had been too tight. In such fractures it is very common to have impaired motion. The experience of the oldest and ablest surgeons in both Europe and America show this to be the case. Prof. Hamilton shows that a majority of such cases are attended with permanent injury of some sort, and all authors on the subject testify that an impaired condition results in a large majority if not in all cases. Conditions might arise which would cause him to remove the bandages entirely, as severe pain, inflammation, etc. He considered the repair in this case very perfect, and he had seen greater paralysis arise from less injuries.

PROF. R. S. NEWTON, the defendant in the case, testified, that he was a Professor in the Eclectic Medical Institute and Surgeon to Newton's Clinic Institute. On the day set forth in the declaration saw the boy, Steele, with his arm broken. Humerus broken off obliquely, the end of the bone driven down into the hollow of the arm. Boy suffering very much. Could distinctly feel the end of the bone. Had experienced but little difficulty in setting it, but it was not so easy to keep it in proper position, there being a constant tendency to slip down; hence, to prevent this, the bandage had to be applied firmly. The arm was much swollen at the joint, and all the blood vessels of the arm seemed to be engorged, though not more than an hour had elapsed since the accident. He first drew the point of the bones together and then bandaged the arm from the hand up, afterwards applying the splints, leaving the arm flexed at right angles. In this case more pressure was needed than in simple transverse fracture, on account of its obliquity. Visited boy next morning with Dr. Freeman. Boy complained of arm hurting him; on removal of dressing found arm blistered, part of the arm and hand was of a darkish red, but

there were no indications of gangrene. He said to Mrs. Steele that it was a bad fracture, and that he would hold the arm till she could get her family physician or another surgeon, unless she would assume the responsibility of the case. She told him to go on and do the best he could. He had explained to her the dangers of such a fracture. After puncturing several of the blisters, he reapplied the bandages, and then put on two splints; one on the inside and one on the outside of the arm. The bandage extended from the ends of the fingers above the fracture, the hand being bandaged straight. One of the splints was removed in a few days. When the long wooden joint splint was off the inside, he had an elastic splint on in its place, and a long wooden one on the outside. He treated the blisters with water dressings and continued the splints four weeks or longer. The arm became offensive about one week after the accident. Had the boy under his care about seven months. Had treated the case as a charity patient, never having made a charge against Mrs. Steele on his books.

PROF. A. H. BAKER, testified, that the erysipelas spoken of was a result of inflammation, and this had been induced by the injury done to the soft tissues. The indications of a fracture in such a young patient may be so completely removed in eighteen months or two years that no mortal man can detect it. The first bandage he considered most important. The practice of Dr. Newton in this case was proper, and such as would have been followed by any judicious surgeon.

PROF. Z. FREEMAN, testified, that he saw patient next morning after the accident. The hand and arm were purple. There were blisters on the hand and arm. The bandage was not too tight. It was an oblique fracture above condyles. The boy's mother declined calling in any other physician, and both she and the boy requested Dr. Newton to go on and treat the case. The blisters in this case were, in his opinion, the result of the attending erysipelas.

The HON. O. M. SPENCER, in his charge to the jury, said: "It is due to the professional man, who has treated a case in other respects fairly and attentively, that a candid and favorable consideration should be given to the judgment which he may form

of his duty during the progress of that case; otherwise no physician or surgeon would dare to undertake, or be safe in the performance of his undertaking. In a case otherwise doubtful, this consideration alone should preponderate in his favor.

"Upon the whole, gentlemen, we declare that to entitle the plaintiff to a verdict you must be satisfied from this evidence, that the injury of which he complains was not the natural result of the original accident, but was distinctly traceable to the mode of treatment pursued by the defendant; in the adoption and continuance of which he did not apply that skill and care which men of ordinary intelligence and prudence, as physicians and surgeons, would have applied. Should this be your conviction, the plaintiff must recover such damages as will compensate him for the injury sustained, not exceeding the amount claimed. Should it be otherwise, or should you not be able to trace the cause of this injury, or your minds be unable to decide from the evidence whether the defendant has been in fault, according to the rule stated, your verdict should be for the defendant."

Verdict:—"We the jury, find the issue joined for the defendant."

The difficulties the professional witnesses had here to contend with were very great. The conclusion most surgeons would come to in such a case, would be that it was probably the result of absurd bandaging. Certainly no surgeon, except one who had seen all "indications of a fracture in the elbow-joint removed in eighteen months or two years," would thereafter consider "the first bandage" a *sine qua non*.

The only case that came before the Knox County Court of which records have been preserved, is that of *Sherman* v. *Bunce and Morse*. I am induced to present it in this connection, on account of the very just, as I view it, instructions given in behalf of the defendants. It exhibits also the character of those persons from whom we mostly expect suits of this character.

Knox Circuit Court, April Term, A. D. 1858—Action on the Case.

PLAINTIFF'S DECLARATION: That he suffered a fracture of right leg. That defendants held themselves out as physicians and surgeons; were employed by plaintiff to treat the fracture, and

when the fractured bone should have begun to heal, they, contrary to expressed wish of plaintiff, stretched the broken bone apart, causing much pain, and thus retarded recovery and rendered plaintiff a cripple for a long time, to wit, one year and six months; damages laid at $6,000; shortening about one inch. Doubtless much less, as these kind of people amplify to the utmost possible limit.

The plaintiff swears he is too poor to prosecute said suit, and asks to prosecute said suit without cost. (Affidavit of Plaintiff.)

The instructions of the court (THOMPSON, J.) were as follows:

1. In this case the plaintiff is bound to prove by a preponderance of evidence the material allegation in some one count in his declaration, or he is not entitled to recover at all in this action.

2. Unless the jury believe, from the evidence, that the defendants did not use reasonable skill as surgeons in the treatment of the plaintiff's limb, or that they did not give reasonable attendance to the cure of said limb; and unless the jury further believe that on account of such want of skill or attendance the plaintiff had a worse limb than might reasonably be expected under the circumstances, as proved, then they should find the defendants not guilty.

3. If the jury believe, from the evidence, that under the treatment of the defendants, if such treatment was reasonably skillful, the plaintiff obtained as good a leg as could be reasonably expected under the circumstances, as detailed in evidence, of the condition of plaintiff, and such manner of treatment, they should find the defendants not guilty.

4. The defendants are only bound to use reasonable skill and to give the usual reasonable attendance to their patient in such cases; if they do this and a perfect cure is not obtained, they do not thereby become liable to damages to their patient.

5. If the jury believe, from the evidence, that a perfect cure or adjustment and union of the bones was prevented or retarded by the act of the plaintiff, or by his physical debility, or his scrofulous habit, or his restlessness or his tossing about, or his cough, or by any accidental cause, the defendants would not be liable for any damages resulting from such causes. And if the jury believe, from the evidence, that the leg of the plaintiff was left in an unu-

sually imperfect state, when under the treatment of the defendants, still they cannot find the defendants guilty, unless they believe, from the evidence, that such imperfections did not result from any of the causes above mentioned.

6. A surgeon, when called upon to treat a fractured limb, is not bound to attend all the time in person upon his patient; but he is bound only to call upon his patient at such reasonable times as are customary and reasonably proper among surgeons in such cases.

7. Where a surgeon is employed to treat a fractured limb it is not implied on his part to make a perfect limb, from the fact of such employment, but he must use reasonable skill and give reasonable attention to bring about such a result; and if, after giving such attention and skill, he fails to accomplish it, he is not responsible.

8. In this case the opinion of competent surgeons and physicians as to the skillfulness of the manner of the treatment of the plaintiff's leg, and also as to whether the plaintiff's leg after such treatment was as reasonably good as could have been expected, are to be received by the jury as proper evidence to prove or tending to prove such facts.

Verdict for defendants.

The Statute of Limitations for Illinois requires that "actions for damages for an injury to the person shall be commenced within two years next after the causes of action accrued." *Gross' Statutes.*

I cite twenty-three cases, with causes of action and verdicts. Surgeons will see from these cases the most they have to fear is the cost of their defense.

Howard v. *Grover*, 28 *Maine R.* 97; amputation. The surgeon, for error of judgment, was mulcted in $1,500 damages. *Slater* v. *Baker*, 2 *Wilson*, 250; refracturing a broken leg without consulting patient's wishes. Damages against surgeon, $2,500. *Gallaher* v. *Thompson*, *Wright's Ohio S. C. R.* 466; fractured leg. Verdict for the defendant. *McCandless* v. *McWha*, 22 *Penn. R.* 261. *Livingston Law Mag.*, *June*, 1855; fractured leg. Verdict in lower court against the surgeon, for $850. Judgment reversed, and sent back for a new trial. *Leighton* v. *Sargeant*, 7 *Foster*, 460. Verdict

for plaintiff, $1,500. Judgment reversed. The above five cases are cited in *Elwell's Malpractice.*

Landon v. *Humphrey*, 9 *Conn.* 209; vaccination. Verdict against surgeon. *Long* v. *Morrison*, 14 *Ind.* 595; patient died under treatment; disease not given. Against surgeon. *Peck* v. *Martin*, 17 *Ind.* 115; child under treatment, became insane. Verdict against surgeon. *Cochran* v. *Miller*, 13 *Iowa*, 128. Case went up on admission of testimony and instructions to jury. Nature of the case not given. Verdict against the surgeon. *McMillen* v. *Hewett*, *Sprague* and *Rodman*, *Elwell's Malpractice;* iritis. For the surgeon. *Holt* v. *Breck*, *Elwell's Malpractice;* incised wound. Never came to trial. *Grinnell* v. *Riggs;* false joint in fractured arm. For surgeon. *Med. and Surg. Report*, *July* 20, 1861. *Gattie* v. *Halford*, *London C. of Exch.;* using instruments in labor, without assistance. For the surgeon. *M. & S. Reporter*, *Aug. 3rd*, 1861. *Russell* v. *Wardner;* broken fore-arm. For defendant. *Ibid*, *May* 20, 1871. *Ordway* v. *Haynes;* fractured thigh. For the surgeon. *Ibid.* Of five cases, all in Middlesex Co., Mass., none of the plaintiffs received a single cent. In one case a verdict was obtained against the surgeon on the testimony of a "natural bonesetter," the judge being a warm admirer of said "bonesetter." *Welch* v. *Sayre;* scrofulous abscess of hip. Plaintiff averred that Dr. Sayre had punctured the hip joint in opening the abscess. Verdict for the surgeon. *N. Y. Med. Jour.*, *vol. xi*, 581. *Haire* v. *Reese;* simple contusion of the hip, followed by "interstitial absorption of the neck of the thigh bone." For the surgeon. *Ibid*, *vol. xiii*, 124; *Med. Times*, *Dec. 1st*, 1870. *Fisher* v. *Gross;* secondary hemorrhage. For the surgeon. An attorney was found in this last case who agreed to pay all expenses and to give his services beside, the consideration being a certain per centage of the damages. *Med. Record*, *vol. vi*, 133.

The union of "*shyster*" and "*quack*," are frequently met with in suits for malpractice.

NEGLIGENCE AND SKILL FROM A MEDICAL STAND POINT.

We shall limit ourselves, in discussing the matter of skill and negligence, from the medical stand-point, to the consideration of fractures, dislocations and amputations, these forming the larger

number of the cases that come into courts for adjudication. What do our eminent teachers say in regard to these questions?

DIAGNOSIS.—The first duty the surgeon has to perform, when called in case of accident, is to determine the nature of the injury. Is it a bruise, a sprain, a dislocation, or a fracture? In injuries near joints, the diagnosis will be, often, most difficult to make. The rapid effusion and consequent swelling that takes place, will tax the surgeon's skill to the utmost, especially when the injury is near the shoulder, the elbow or the hip joints. The points claiming the particular attention of the surgeon relate to deformity, shortening or lengthening, preternatural mobility, or immobility and crepitus. The recognition of deformity will be made out by the eye taking the uninjured limb for comparison. It may be necessary to use the "touch" as an aid to the sight, but in this as in all other manipulations the surgeon should exercise the greatest gentleness. It is no mark of surgical attainment to handle a broken limb roughly, neither is it necessary, and the surgeon who does so, could be easily held to a charge of unskillfulness. *Hamilton Fract. and Dis., 3d ed., p. 34, et sequentes.* The statement above should be qualified by "*as a rule*," for there, undoubtedly, are cases in which, for the best interest of the patient, the surgeon would be justified in manipulating the injured limb throughly and for some length of time, indeed he would be obliged to, before he could come to anything like a correct conclusion in the case. *Gross' System of Surg., Vol. 1, 3d ed., p. 860.*

Difference in the relative length of the limbs is to be determined by careful measurement. In fractures of the femur, measurement should always be practiced, not once only, but every day, or as frequently as the surgeon may deem it necessary, in order to determine that his dressing is fulfilling its purpose in keeping the broken bone to as near its proper length as the nature of the case will permit.

Preternatural mobility is a sign, present in all fractures, *except impacted*, and should be carefully looked for by the surgeon. Not so important as crepitus, yet being always present it is scarcely less important.

Crepitus, that grating sound *heard* not only by the ear but also *felt* by the hand of the surgeon, is the most valuable of the com-

mon signs, but unfortunately it is not always present. The ends of the broken bones may be impacted, as often happens, near the joints, which, with the great amount of swelling, so obscures the nature of the accident that eminent surgeons have been frequently led into error.

Prof. Hamilton, (*Fract. and Dis.*, 3*d ed.*, 34,) speaking of general diagnosis says: "Valuable and important as is crepitus in its relations to differential diagnosis, unfortunately it is not always present, and for reasons that must be plainly stated. First: we cannot, in a pretty large proportion of cases, bring the broken ends again into apposition. Whatever mere theorists may say to the contrary, and notwithstanding surgeons up to this time have rarely ventured to allude to this subject, the fact is so that we do not "set" broken bones. We do not, even at first, bring them into complete apposition, unless it is the exception. I speak of bones once completely displaced by overlapping, and these constitute the majority of examples which come under the surgeon's observation. Second: in transverse fractures of the patella, and in fractures of the olecranon and coronoid processes of the ulna, of the coracoid and acromion process of the scapula, and in all similar detachments of processes and apophyses, the action of the muscles, by displacing the fragments, prevents crepitus from being readily produced. Third: in a few cases, such as certain fractures of the neck of the femur, of the neck and head of the humerus, etc., the broken ends are impacted, or so driven into each other as to forbid the production of motion and crepitus; or they may be simply denticulated, and the consequences, so far as crepitus is concerned, will be the same."

We may remark here, that the diagnosis of dislocations is often made with the greatest difficulty, and may not be made correctly at all, from the great amount of swelling that almost instantly supervenes. Sir Astley Cooper remarks, (*Dis. and Frac., Am. ed.*, 319,) when speaking of the signs of dislocations of the humerus—and the remarks are equally applicable to fractures of the humerus near either end—that, "but a few hours make the appearances much less decisive, from the extravasation of blood, and from the excessive swelling, which sometimes ensue; but when the effused blood has become absorbed, and the inflammation has subsided, the

marks of the injury became again decisive. At this latter period it is that surgeons of the metropolis are usually consulted; and if we detect a dislocation which has been overlooked, it is our duty, in all candor, to state to the patient that the difficulty of detecting the nature of the accident is exceedingly diminished by the cessation of inflammation and the absence of tumefaction. It may also be observed that there is great difference in the facility with which the accident is discovered in thin persons of advanced age, and in those who are loaded with fat, or who have, by constant exertion, rendered their muscles excessively large." He remarks, previously, in his general observations on dislocations, that "it must be borne in mind that where fibrinous effusion has taken place, as generally happens in inflamed joints, we may have sounds that no skill can determine the nature of, especially in such cases as above described." See also, *Ashurst Princip. and Prac. of Surgery*, 270–1.

The chafing sound, which is frequently present in dislocations and inflamed joints, resembling the crepitus of fractures, will often lead the inexperienced, and sometimes the experienced, into error. If, however, the surgeon applies his differential tests carefully, he should not and would not be held liable to damages for such errors of judgment.

Dislocations, as a rule, are characterized by preternatural immobility, and when reduced do not need support to retain the bone in position. Observation of the above characteristics will carry the surgeon safely through, unless there be both fracture and dislocation, in which case the difficulty in diagnosis will be most annoying.

The following case illustrates these difficulties well. By the kindness of the patient, I am able to present him for examination at this meeting.

W. J. Adams, dentist, age 25, was thrown from a horse, Nov. 21st, 1872. Saw him within three-quarters of an hour. The force of the fall was received on the left forearm and arm. The chief injury was located in and around the elbow-joint. Found him with the forearm flexed at a right angle; elbow very much swollen; no particular difficulty in extending the arm or flexing it; pronation and supination not more impaired than they would be from

pain and the swelling of the muscular tissues. The patient was quite faint from shock; rotation of head of radius could not be felt on account of tumefaction; in extended position, rotation developed crepitus. Passing fingers up the ulna discovered a depression about an inch and a quarter to an inch and three-quarters below point of olecranon; flexion of the arm increased this depression somewhat; there was a sharp projecting edge on upper fragment, which was quite prominent when forearm was flexed. Diagnosed fracture of the olecranon process at its base.

Never having seen a fracture of this part, in my own experience or the experience of others, and carrying in my mind that there was a difference of opinion as to the position in which the arm should be dressed, I went to my office to prepare a splint and consult my authorities on the subject. The weight of authority being in favor of the straight position, it was so dressed, on a long tin gutter splint applied to front of the arm, secured by a roller bandage figure of eight around the joint. This dressing was continued till the afternoon of the 23rd, when, at patient's request, it was left off for a few hours. The patient had found it necessary, on account of the swelling and pain, to cut the figure-of-eight bandage several times since first dressing. The arm was dressed twice a day for the first three or four days. While the splint was off, had him apply water dressing, of such temperature as was most agreeable, arm being kept in extended position. Had the arm wet frequently since the first dressing with camphor spirits, tinct. arnica, etc. The swelling commenced subsiding by the 24th, the pain being much less. There was by this time a very great amount of ecchymosis developed upon the inner and upper portion of the arm as high as the axilla. I had told patient that at the end of third week I would put in practice passive motion. Patient went to another county the third week (20th day) of the treatment, and did not return for about ten days. During his absence several surgeons saw the arm and thought it was doing well. When I next saw him, the swelling had in a great measure subsided; there was some ability to flex and rotate the arm by means of the other hand. There was, at this time, and there continues to be, that grating sound, resembling crepitus, which I refer to inflammatory exudations. The fragments appear

to have become united with but little separation. There is a slight excess of projection in the vicinity of the outer condyle or perhaps as low as the head of the radius. This, doubtless, is the displaced fractured external condyle. The depression at seat of fracture is easily recognized; both flexion and rotation under passive and active exercise seems to be improving.

The difficulties here presented were—1st. Danger of separation of fragments. This I prevented by dressing the arm in the straight position. 2. The fracture being so low down, the joint might be implicated, and there would be permanent anchylosis from osseous deposit in the joint. 3. Fracture so low down that head of radius would be intruded upon by callus, and so rotation impaired. 4. Dislocation of head of radius backwards or outwards, or fracture of the same. 5. Fracture of external condyle. As will be seen from history of the case, the backward dislocation was eliminated by the ability to flex and extend the forearm easily, also the ability to rotate forearm. An outer dislocation was eliminated by same tests; fracture of condyle not evident, on account of swelling; and all were ignored from a general absence of deformity. The crepitus of fracture was referred entirely to the olecranon process.*

From all this, we may, therefore, conclude, that, as "diagnosis is a science of probabilities," the surgeon who faithfully considers these tests, and promptly applies them to the elucidation of his case, has skillfully performed his duty in diagnosis.

SKILL.—What constitutes skill in treatment? The indications are, first, to put the bones in as near apposition as possible; secondly, to keep them in this position; thirdly, keep down or allay spasm and undue inflammation; and fourthly, the management of the accidents that may occur during treatment. The first indication is accomplished by gentle extension and counter-

* The joint was critically examined by Dr. Hamilton, of Galesburg, who thinks there was probable fracture of external condyle, with fracture of olecranon. In this opinion, Drs. Reece, Nance, Phillips, Aldrich, Purdum, Webster, Hurd, Babcock, Maxwell, Nelson, McCutchan and other gentlemen of the society concurred.

Drs. Hamilton and Reece favored the use of an anæsthetic and a judicious amount of force to bend elbow at right angle.

All the other gentlemen advised severe passive motion, either with or without an angular-jointed splint, with thumb-screw to procure gradual flexion.

extension, with pressure at the seat of the fracture; the second by splints, bandages, and a continuance of the extending and counter-extending force; the third by anodynes, water-dressings, etc. Let me call the especial attention of the surgeon to the danger of using the primary or initial bandage. Notice how many cases come into courts, in which this is one of the apparent causes of trouble. The older surgeons were in the habit of applying this dressing to a broken limb before applying the lateral splints. The object to be obtained by it, *i. e.*, support of the muscles and thus prevention of their contraction, and the protection of the limb from direct contact with the sides of the splints, are desirable. The same objects can be accomplished, as well, by properly padding the splints, and by the use of the roller bandage in retaining them. The danger of so ligating the limb as to occasion congestion, inflammation and gangrene, is so great, by such dressing, that the surgeon would hardly be held "not guilty," who should use it. I would here, therefore, enter my earnest protest against the use of this dressing. In my first case of fracture of the leg, another surgeon, presuming on his *seniority* in practice, applied such a dressing, contrary to my objections, the sequence of which was a narrow escape from a suit for malpractice. The writer was exonerated from blame in the case inasmuch as he had two *intelligent friends*, who were witnesses to the protest.

Dr. Ashurst remarks (*Princip. and Prac. of Surg.* 223–6): "CIRCULAR COMPRESSION is to be carefully avoided, as swelling is inevitable after a fracture, and the risk of gangrene from this cause is by no means only theoretical. Hence, as a rule, in the early stages of fractures, *no bandages should be applied beneath the splints.* Gangrene is the most serious accident which can be met with in the treatment of a simple fracture, and may be due either to arterial obstruction at a point above the seat of fracture, to venous obstruction due to swelling of the part, or to too tight bandaging, or to a combination of these causes. With regard to tight bandaging it is to be remembered that a bandage may be sufficiently loose when applied, and yet in a few hours may become the cause of great constriction from subsequent swelling of the limb; hence the importance of not *applying a bandage beneath the splints;* it is, as remarked by Mr. Ericksen, almost invariably to a neglect of this rule that the occurrence of gangrene from the pressure of a

bandage is due. Especially is this true in the case of the forearm, in fractures of which part this accident most often occurs. It should not be forgotten, however, that this accident may be partly or entirely due to arterial obstruction, which is, of course, an unavoidable occurrence; hence we should not be too hasty in accusing a fellow-practitioner of malpractice on account of such an accident, for it may be really due, at least in some measure, to causes entirely beyond control. The *treatment* of gangrene occurring under such circumstances must vary according to its nature and extent; if it be due to constriction, and the surgeon fortunately discovers it in time, he must instantly remove the bandages, when possibly the patient may escape with superficial sloughing. If complete gangrene has occurred, amputation of course becomes necessary; if the disease show a disposition to self-limitation, the surgeon may await the formation of the lines of demarcation and separation, but if the gangrene be of the rapidly spreading traumatic variety, immediate removal of the limb must be practiced at a point above the furthest limits of the disease."

Dr. Ashurst, in speaking of the reduction or "setting" of fractures, says that "it consists in replacing the fragments by manipulation as nearly as possible in their normal position as regards each other. I say advisedly, 'as nearly as possible,' for I believe with Prof. Hamilton, that it is only in exceptional cases that the displacement of fractures can be entirely overcome."

I have been induced to quote thus largely from Ashurst because he is one of the latest writers on the subject, and stands high as a teacher and practitioner. To him and to Prof. Hamilton, the profession owes a debt of gratitude for the *honest* statements they have made, in respect to the conditions that obtain in the matter of fractures.

The next question that claims our consideration is, when should a fracture be reduced—immediately, or not till the inflammatory action consequent upon the injury has been subdued? "No greater absurdity and cruelty are conceivable than leaving the fracture unadjusted." *Liston's Elements of Surg., Am. ed.*, 581. "Five good reasons why broken bones should be reduced as soon as possible: 1, when the injury is recent, the muscles offer less resistance; 2, their resistance is increased not only by reaction but

also by actual adhesions between their fibers; 3, effusion distends both the muscles and the skin, and compels the limb to shorten; 4, the constant goading of the flesh by the sharp points of the broken bones increases the muscular contractions; 5, the patient will submit readily to manipulation and extension at first, but after the lapse of a few days it is very seldom that he will permit the limb to be in any manner disturbed, even if he is assured that his refusal entails upon him a great deformity." *Hamilton Frac. and Dis.*, *3d ed.*, 44, *et seq.* "It appears singular that upon a subject so clear as this there should be any difference of opinion. It certainly requires no great knowledge of the nature of accidents to discover why such cases should receive the earliest possible attention: as long as the ends of the fragments are permitted to remain apart, their tendency inevitably must be to excite spasm and inflammation, thereby increasing the suffering of the patient and retarding his cure." *Gross, vol.* 1, 865. "As a broken bone is a constant source of irritation to surrounding parts, and the periosteum is liable to be separated to a greater extent in proportion to the spasmodic motion of the muscles, it is singular that any doubt could exist as to the advantage of setting a fracture as soon as possible." *H. H. Smith, Op. Surg., vol.* 1, 540. "Reduction should be effected *as soon as possible*, for the reason that it is much easier for the surgeon and much less painful to the patient, if done before the development of inflammation; if, however, the patient, is not seen until a later period, or if displacement should, from any cause, have recurred, the surgeon need not hesitate at any stage of the case to effect as perfect a reduction as he can, for the slight additional irritation thus produced will be of much less consequence than the evils which would result from continued displacement." *Ashurst Princip. and Prac. Surg.*

Failure to reduce a fracture promptly would constitute negligence, which we shall consider more in detail, when we come to treat of the accidents liable to occur during the cure of a fracture.

(To be continued.)

ARTICLE II.—*Annual Report of the Section on Obstetrics and Diseases of Women and Children of the Chicago Society of Physicians and Surgeons.* DEPARTMENT OF GYNÆCOLOGY. Read before the Society, December 9, 1872, by A. REEVES JACKSON, M.D., Chairman of the Section.

In the report on Diseases of Women which I have the honor to present to the Society, I have endeavored to bring together such subjects of interest and importance as have appeared during the present year in the various periodicals to which I have had access, with the view of showing, so far at least as the current literature represents it, the existing state of the science. In doing this, I have refrained from introducing any comments of my own, believing that the Society would much prefer having the opinions of those who are now prominent in our own and other countries in this department of practice.

Neither has there been any attempt at systematic arrangement of subjects. I have taken them just as they occurred to me, and have done nothing more than simply group together such as were of the same or a similar character.

DILATATION OF THE OS AND CERVIX UTERI.

Dr. Atthill, in Braithwaite's Retrospect for January, 1872, says, "Whenever you meet with a case of menorrhagia in a woman who is *otherwise unhealthy*, which a careful vaginal examination proves not to depend on ulceration of the os and cervix uteri, or an extra-uterine polypus, or cancer, or such evident cause, it is a manifest duty to dilate the cervix and os internum with the view of determining the condition of the interior of the womb."

Of the two methods of doing this, viz., the one by the use of sponge tents and the other by means of the sea tangle, he prefers the latter. The mode adopted by him is the one first introduced by Dr. Kidd, of Dublin. It consists, first, in exposing the os uteri by means of the duck-bill speculum, and drawing down the uterus with a small hook inserted into the anterior lip. Several pieces of sea tangle bougie, each cut the full length of the uterine cavity, are then to be inserted separately side by side. These are to remain from twelve to twenty-four hours.

In case this does not produce so much dilatation as may be

desirable, the process may be repeated, and if this should also fail, the dilatation may be completed by the use of one of Barnes' dilators.

Dr. Atthill condemns in strong terms the use of any of the metallic instruments which have been suggested for the purpose of dilating the cervix, and asserts that their use is attended with danger, as they act too rapidly and sometimes rupture the uterine fibres, several cases of severe inflammation and even of death having followed their use, while sea tangle is perfectly harmless.

Dr. Grailly Hewitt still prefers the sponge tents for the purpose of dilating the uterine cavity, objecting to the laminaria tents, that they are liable to slip out of place.

MECHANICAL DYSMENORRHŒA.

Dr. Atthill (Braithwaite, Jan., 1872,) states, that there are three varieties of mechanical dysmenorrhœa: 1. That in which the cervical canal is so flexed as to obstruct the escape of the menstrual discharge; 2. That in which inflammation or congestion of the lining membrane exists to such an extent as to cause temporary closure of the canal; 3. That in which there is some congenital narrowing of the os internum of the cervical canal.

He regards the operation of incising the os internum and the cervix, first introduced by the late Prof. Simpson, as proper in the treatment of all these varieties, after the failure of other means, including the dilatation of the canal by the use of sea tangle tents. For the performance of the operation, he gives preference to the instrument of Dr. Savage. It is furnished with two blades, the cutting edge of each being directed outward, but as the back of each blade, when the instrument is closed, projects beyond the edge of its fellow, which it thus overlaps, its introduction into the cervix can be safely effected; but it is generally necessary to dilate the cervical canal before this step can be effected. This is done by the insertion of sea tangle tents, two of which will commonly be sufficient for this purpose. In accordance with the opinion of most gynæcologists, Dr. Atthill limits the use of the hysterotome to the division of the os internum and the supra-vaginal portion of the cervix, and prefers dividing the vaginal portion with a pair of curved scissors.

In order to prevent the incisions from uniting, to which there

is sometimes a great tendency, he mentions the suggestion of Dr. Coglan to insert a thin roll of lead, and of Dr. Grailly Hewitt to introduce an ebony stem pessary. The last named means would, in addition to preventing contraction, also tend to keep the canal straight.

DYSMENORRHŒA AND STERILITY.

Dr. J. Protheroe Smith, (Braithwaite, July, 1872.)

In certain cases of mechanical dysmenorrhœa, there exists simply a stricture of the os internum, with narrowing of the cervical canal and mouth. All accompanying congestion or inflammation being previously removed, Dr. Smith recommends forcible extension by means of a dilator. After preparing the patient by a purgative dose, and by abstinence from all local excitement, and from alcoholic drinks, or much animal food, the uterine canal is accustomed to bear a metal bougie, which should be repeatedly and daily introduced, and increased in size until that of a No. 10 catheter can be borne without any pain. Then the uterine dilator may be safely employed. The instrument he employs consists of two short blades, two and a half inches long, separated by a screw worked with a nut, so as to mark precisely by an index on the handle, the extent of the dilatation employed. This should be used at first cautiously about every second day, always ceasing to turn the screw so soon as pain is experienced. In the course of a few days or weeks at farthest, a forced dilatation to the extent of an inch or an inch and a half may be made with impunity. After this the dilator should be used daily for two or three days, and afterwards at longer intervals, to keep the parts open till they permanently heal in the state of distension effected by the operation.

The results of this treatment are more permanent than that by division of the constriction by means of the hysterotome, which although it gives prompt temporary relief, sometimes produces a firm cicatricial constriction, which is worse than the original disease.

TREATMENT OF SOME FORMS OF MENORRHAGIA.

Dr. Atthill, (Braithwaite, Jan., 1872.)

In cases of menorrhagia, depending on sub-involution of the uterus after labor or abortion after the failure of ergot, gallic acid and similar remedies, we should introduce ten grains of the solid

nitrate of silver as high as the fundus of the uterus, and allow it to remain there and dissolve.

Dr. Atthill effects this object by means of the instrument known as Simpson's *uterine porte caustique;* an instrument which consists of a hollow silver tube open at both ends, in size and shape closely resembling a sound; it contains an accurately fitting flexible stilet. The instrument is introduced to the fundus, the stilet is then withdrawn and the piece of solid nitrate of silver, reduced to the proper size and shape, placed in the tube. It is pushed upwards by means of the stilet until it reaches the end of the tube. This latter is then withdrawn about half an inch in order to guard against the possible forcing of the nitrate of silver into the uterine tissues. This having been done, the caustic is pushed out of the instrument and left free in the cavity of the womb. Dr. Atthill has used this practice several years, and considers it simple, safe and efficient. It produces some pain for a few hours, but he has known no further unpleasant results.

Sometimes a severe form of menorrhagia results from that unhealthy, spongy condition of the os and cervix, in which the mucous membrane lining the uterine canal becomes hypertrophied and thickened, the os uteri patulous, and the lips everted. In order to effect a cure in these cases it is necessary that our treatment should reach every portion of the diseased tissue, which usually extends, at least, as high as the os internum. Two pieces of sea tangle should therefore be introduced and permitted to remain twenty-four hours, at the end of which time they should be withdrawn, and the whole diseased surface should then be cauterized with fuming nitric acid. In a case cited, this caused no pain. In a few days the parts, on being examined, were found in a much healthier state. *The menorrhagia was entirely checked and never returned.* The subsequent treatment consisted in the occasional application of a twenty-grain solution of nitrate of silver to the os uteri, and, at a later period, of a small blister to the sacrum. Finally, the ulceration was entirely removed, and menstruation became in all respects normal.

MENORRHAGIA AND METRORRHAGIA.

J. Matthews Duncan, (Braithwaite, July, 1872.)

Treatment is divided into that which is proper before the loss, and that which is proper while the loss is going on.

The first consists in the use of remedies for any condition which may appear to predispose to, or aid in maintaining the complaint. The second is the chief treatment, and is various in kind. The patient should rest in the horizontal position, and be kept cool. This is applicable to all cases. The application of cold cloths to the abdomen, vulva, etc., or cold water thrown into the vagina or rectum, is a remedy of doubtful value. The vaginal plug, consisting of compressed sponge or bits of lint saturated with alum or perchloride of iron, is sufficient to check the bleeding in most cases. In extreme cases the mucous membrane of the cavity of the uterus may be painted with solution of perchloride of iron. There is nothing worthy the name of evidence to show that the internal administration of the so-called hemostatic remedies, as the mineral acids, ergot, digitalis, gallic and tannic acids, has any considerable effect in checking the flow, but they may be used for the possible good they may do. Ten to twenty drops of the dilute sulphuric acid in infusion of roses, four to eight times daily, is one of the best.

MENORRHAGIA.

J. H. Aveling, (Braithwaite, July, 1872.)

In cases of menorrhagia and leucorrhœa, depending upon simple hyperemy—a word invented by Andral, and defined by him to signify an excess of blood in the capillaries—we should administer arsenic in the form of Fowler's solution, in doses of from two to six drops, three times a day with meals. The dose should be two drops to commence with, and should be continued a fortnight. If at the end of that time no conjunctival irritation should display itself, the dose may be increased to four drops; and then again, after another interval, to six, eight or ten, or even more drops.

The first effect of this treatment is to improve the digestive powers, and the patient's general appearance. The nervous system shows increased tone. The intercatamenial period is gradually lengthened, the amount of the discharges is decreased, and in like manner all the other hyperæmic symptoms disappear.

TREATMENT OF THE PEDICLE IN OVARIOTOMY.

Dr. D. Lloyd Roberts, (Braithwaite, January, 1872.)

No one method of securing the ovarian pedicle is of universal application. If it is long, narrow, and can be easily brought out-

side without traction upon the uterus, or making any undue pressure upon the wound at the lower part of the belly, we should use the clamp; if, on the contrary, the pedicle is short, and there is danger of dragging or too much displacement of the uterus, and if it is not too voluminous, it should be transfixed with a firm ligature, crossed so that it may be tied on one side only, the ligature cut close, and the stump dropped into the pelvis. In cases where the pedicle can neither be safely brought out with the clamp, nor ligatured for fear of vessels retracting or tissues shriveling up; or where the pedicle is very short, vascular and fleshy; or where it is very close to the uterus, it should be secured with a clamp (moderately crushing it), divided, each vessel secured with a ligature, cut short, and the actual cautery applied to the rest of the stump, waiting a few minutes to see if any oozing of blood take place before dropping it into the pelvis. Should the pedicle be very voluminous, the cyst having a very broad attachment to the uterus, so that the clamp cannot be used to hold and crush it while the cautery is being applied, it should be slowly divided with a pair of blunt scissors, each vessel being taken up as it is opened, and the cautery applied to the remaining portion of the stump.

To tie and return the pedicle seems to be the next best mode of dealing with the stump, when, owing to its shortness, the clamp cannot be used. The portion of the pedicle on the distal side of the ligature, surrounded as it is by *warm* tissues, retains its vitality long enough for it to become attached by lymph to the adjacent parts. The ligature, when tightened, buries itself too, and brings into apposition the peritoneal covering on each side of it, and between these adhesion soon takes place.

RETROFLEXION OF THE UTERUS.

Dr. Robert Barnes, (Braithwaite's Retrospect, Jan., 1872.)

Dr. Barnes recommends the treatment of retroflexion by means of the lever pessary, which should be in preference made of vulcanite. The size of the instrument should not be so great as to put the posterior vaginal wall on the stretch, otherwise it will produce pain, and lose the character which a lever should have, of mobility. Any accompanying uterine disease should at the same time receive its appropriate treatment.

UTERINE POLYPI.

Dr. J. Matthews Duncan, (Braithwaite's Retrospect, Jan., 1872.)

Uterine polypi are of three kinds, fibrous, fibrinous, and mucous. The latter are the most frequent.

The constancy of hemorrhage as a symptom of this disease has been greatly exaggerated. In forty-one cases of mucous polypi, nineteen caused no extraordinary loss of blood, while in several there was less than ordinary loss, and in some no discharge of any kind.

The largest losses of blood are produced by true fibrous polypi. In only one of twenty-two fibrous polypi, was there no extraordinary loss of blood.

When the existence of polypus is suspected, and a vaginal examination does not reveal it, it will be necessary to dilate the os uteri. It is very rarely necessary to dilate the whole cervix, this proceeding having been required in only one of sixty-six cases. Dilatation is effected by means of a sea tangle tent, succeeded in twenty-four hours by a larger one, and this again by one still larger, if necessary. The tent, with a string attached to its lower end, to facilitate removal, is seized by a vaginal or throat forceps, and passed into the uterus. In order to keep it *in situ* it is well to introduce a small sponge into the vagina. After the removal of the tent, the index finger of one hand is passed into and through the os uteri, while the other hand, pressing on the abdomen above the pubes, pushes the womb downwards upon the examining finger.

There is nothing simpler than to tell what should be done in a case of polypus. It should be removed.

Mucous polypi, when small, may be removed by torsion, it, or its pedicle, being seized by appropriate forceps and twisted until it separates. If too large for this, and it exceeds the phalanx of a small finger, it is best to clip through the pedicle with curved scissors. The operation may be done without a speculum. Neither is an assistant necessary, although it is better to have one.

The various instruments that have been invented for cutting through the pedicle of a polypus are unnecessary. There is no difficulty in dividing the pedicle by means of a bistoury or curved scissors—the difficulty consists in reaching the pedicle. In cases of enormous polypi, there is difficulty in delivery from the vagina. The perineum is likely to be torn, and sometimes the

laceration extends even through the sphincter ani. Division of the pedicle, even if it could be effected as a preliminary to the operation, would not make any essential difference in this respect.

In these cases Dr. Duncan removes portion after portion of the tumor, in such a way, if possible, as always to leave a convenient bit of the tumor projecting from the remaining part, by which a good hold is got for pulling the tumor further down. So, bit by bit, the whole is removed.

FIBROID TUMORS AND POLYPI.

Dr. Thomas Skinner, (Braithwaite's Retrospect, July, 1872.)

To facilitate removal, the first step is to open up the passages for the introduction of the necessary instruments, and to attain greater certainty as to the position, relations and attachments of the tumor and its pedicle. This is best accomplished by means of sea tangle and sponge tents, and, if necessary, by incising the cervix uteri.

Next, the tumor is to be fixed by means of a vulsellum, or Dr. McClintock's corkscrew, and then transfixed with a cord, or by placing a noose over it. The tumor being firmly grasped, is pulled as low as it will admit of, and the wire or chain of the ecraseur passed over it to its pedicle. In case this latter is so thick and fibrous that it cannot be divided in this manner, our next best step is to divide it immediately above the wire or chain of the ecraseur with blunt-pointed curved scissors, a blunt-pointed curved bistoury, or, best of all, with the polyptome of Sir James Simpson.

In cases where, from any cause, the whole of a fibrous tumor or a fibroid polypus cannot be removed, it is good practice to remove as much of it as possible, as the remainder will frequently thereafter disappear.

The instruments that may be necessary in the removal of fibroid tumors are the following, namely: the uterine sound; wire and chain ecraseur; Simpson's vulsellæ, large and small; Simpson's polyptome; intra-uterine scissors; strong blunt-pointed scissors, curved, for dividing the os and cervix; small uterine syringe, for hemostatic injection; uterine scrapers; polypus crusher; small, narrow midwifery forceps; sponge and laminaria tents, and their guides or introducers; wire and other ligaturing material; sponges; an ordinary pocket case of instruments.

FIBROID TUMORS OF THE UTERUS.

Dr. Alfred Meadows, (Braithwaite's Retrospect, July, 1872.)

Fibroid tumors of the uterus present almost the same histological elements as the uterus itself, viz., smooth or unstriped muscular fibres, bound together with varying quantities of connective tissue.

These tumors are usually not very painful, unless their size be such as to cause pressure on the neighboring organs, or are so situated as to project prominently from the peritoneal surface. A small tumor in this position will often occasion very great suffering, while a patient may have a very large one growing into the uterine cavity, with little or no pain. The pain and hemorrhage are generally in inverse proportion the one to the other, the subperitoneal producing the most pain and the least hemorrhage, while the submucous and interstitial tumors occasion the most hemorrhage and the least pain.

The pain in these cases is best relieved by medicated vaginal pessaries; but inasmuch as the vaginal mucous membrane has no power to absorb fats, cocoa-butter should not be used as the excipient in their preparation. It is much better to use gelatine and glycerine as the basis of the pessary, in the proportion of one part of the former to four of the latter; into this we can put any ingredient we wish, as atropine, morphia, conia, or any other agent of this class.

The hemorrhage is, however, the symptom which we shall most frequently be called upon to treat, and the treatment is, as a rule, most unsatisfactory and disappointing. Ergot, upon the whole, excels in hemostatic properties in these cases. It is more useful where the tumor is interstitial than where it is submucous; it fails, therefore, not unfrequently in the very cases where it is most needed, for it is in the submucous varieties that we get the greatest amount of hemorrhage. Usually it is best to combine the ergot with some purely astringent substance, and when anemia is present, some form of iron. In case it becomes necessary to resort to topical applications, the most effective is the solid stick of anhydrous sulphate of zinc. This is preferable to fluid injections into the uterus, being fully as useful and far less dangerous. It should be passed through the speculum, quite up into the uterine cavity. Dr. Meadows has frequently tried the plan of Dr. Baker

Brown, of freely incising the cervix, for the purpose of curing the hemorrhage, but has not seen any good result from it.

FIBROUS TUMORS OF THE UTERUS.

Dr. L. Atthill, (Braithwaite's Retrospect, Jan., 1872.)

A fibrous tumor may be defined to be a growth composed of fibrous tissue identical in structure with that of the uterine wall, but disconnected from it, being, in general, surrounded by a capsule of dense fibro-cellular tissue, which is perfectly dry and loose, so that when one cuts down on the tumor it almost of itself escapes from the cavity. There are three classes, namely: subperitoneal, submucous, and intra-mural, according as they are found to grow from the peritoneal surface of the uterus, from its submucous tissue, or are developed within the walls of the organ.

The first, or subperitoneal, are beyond the reach of treatment. They do not give rise to menorrhagia, and indeed do not seem as a rule to influence menstruation at all.

The submucous, pedunculated, fibrous tumor is to be treated in a manner identical with the ordinary fibrous polypus.

The intra-mural are of frequent occurrence, and the most important. They nearly always produce menorrhagia, and as invariably stimulate the uterus to enlargement. Medicines without number have been employed with the view of causing absorption of fibrous tumors of the womb. Prominent among these are the bromides. After a full trial, Dr. Atthill has found little good result from their use, and has lost all faith in their resolvent powers in the disease under consideration.

The surgical means that have been recommended and used for their removal are five in number. They are—1. Incising the cervix uteri; 2. Incising the tumor; 3. Cutting into the tumor and destroying a portion of its tissue—a process to which the term gouging has been applied; 4. Enucleation of the tumor; 5. Avulsion, or the forcible tearing away of the tumor from its attachment.

Each of these methods has been used with various degrees of success. The operation of incising the os is founded on the theory of Dr. Baker Brown, "that the division of the os and cervix uteri permits the fibres of the body of the uterus to contract upon the contained tumor, and thereby to compress the vessels and prevent

hemorrhage." Whether this be the true explanation or not, it is certain that the operation is often followed by good results, and in the case of large tumors which are contained within the uterus, and where the cervix is thinned and spread over them, the operation is fully justified. The incising of the tumor has been practiced by Dr. Atlee, of Philadelphia, and Dr. Tracy of Melbourne, and others, with a success which is probably due to the fact that the vitality of these tumors is nearly, if not altogether, destroyed by the incision having divided their capsules, for the fibrous growth itself is endowed with a very low degree of vitality.

Enucleation is practiced by Dr. Matthews Duncan and others, and this gentleman has also practiced with great success the method of avulsion. This consists in seizing the tumor with a strong vulsellum, and forcibly dragging it from its attachments. It is specially suitable for those cases in which spontaneous enucleation has already partially begun, or where that stage having been artificially commenced, has proceeded to some extent.

Dangerous hemorrhage, from the pressure of a fibrous tumor, may be checked by injecting into the uterine cavity—the cervix having been previously dilated—the tincture of iodine or a solution of perchloride of iron.

CANCER OF THE WOMB SUCCESSFULLY TREATED BY BROMINE.

Dr. A. Wynn Williams, (Braithwaite, Jan., 1872.)

Dr. Williams gives the details of four cases of medullary and epithelial cancer of the cervix successfully treated by the injection and application of bromine, twelve drops to one dram rectified spirits of wine. His opinion is, that cancerous growths or formations situated in the lips or neck of the womb can be successfully medicated when confined to this part only, and previous to the commencement of ulceration. The presence of ulceration, indeed, should not preclude an attempt at removal so long as the womb is movable, and the neighboring glands and other parts remain apparently healthy. The mode of proceeding will vary in different cases. The more superficial, as some of the epithelial varieties, will be best destroyed by saturating cotton wool with the bromine solution, placing over it a vulcanite cup or gutta percha. Any stump left must be treated by injection, as the more solid tumors.

The solid growths are best treated by injection of their substance, and for this purpose a small trocar and canula, to which a glass syringe can be attached, answers best.

Dr. Williams' paper, detailing the cases in which he had used this treatment, was read before the Obstetrical Society of London, and was freely criticised, especially by Dr. Playfair, who remarked that Dr. Williams' cases afforded no conclusive proof that they were malignant at all, inasmuch as fixature of the womb, which is the first positive sign of malignancy, did not exist; indeed, in each instance the womb was said to be freely movable. Dr. Williams stated, in reply, that there must be a time in the early stages of the disease, when it was confined solely to the neck of the uterus, and in which the womb was not fixed; such was the case in the mammæ and other organs.

CARCINOMA OF THE UTERUS.

Dr. O. Spiegelburg, (Half Yearly Compendium, July, 1872.)

Dr. Spiegelburg states, that the diagnosis of carcinoma in its first stage may be made with tolerable certainty by the introduction of a sponge tent. If the hardness of the os be owing to a benign tumor or infiltration, it will allow of dilatation; but if it be owing to malignant disease, the tissue will remain rigid and inelastic, even after the sponge has been allowed to remain twenty-four hours.

He recommends the early removal of the cervix, believing that occasionally, though rarely, radical cures are thus obtained. Where the operation cannot be performed at a very early period, he advises merely a symptomatic treatment.

INFUSION OF TOBACCO IN VAGINITIS.

Dr. L. Atthill, (Half Yearly Compendium, Jan., 1872.)

Infusion of tobacco is a valuable remedy in vaginitis, but in using it we should be sure that the orifice of the canal is sufficiently patulous to permit the free escape of the fluid. In some cases where the vaginal orifice is small, the use of the remedy is quickly followed by faintness, nausea, etc. The value of the remedy is greatly enhanced by the addition of two or three drams of borax.

ADVANTAGE OF ELEVATING THE WOMB.

Dr. Cumming, (Half Yearly Compendium, Jan., 1872.)

Dr. Cumming states that sufficient importance has not been assigned to the maintenance of the womb at its proper height. A descent of one inch often produces distressing sensations, and in married women exposes the organ to injury during the sexual act—resulting in tenderness, pain, swelling and ulceration.

For the purpose of elevating the womb, he advises the use of the ring pessary, of as large a size as can be borne. The ring should be compressed into an elliptical shape by tying firmly with tape, a slip knot being used. After introducing the pessary, the knot may be loosened by pulling on the free end. The ring will then resume its original shape, and may then be finally adjusted. Many ulcerations of the cervix get well under this treatment without any local application whatever.

ON THE USE OF CLOTH TENTS.

Dr. Talliaferro, (Atlanta Medical and Surgical Journal for Oct., 1871), publishes an article on the use of cloth tents. In his experience, he had found the sponge and sea tangle too irritating, while from the cloth tents he had found all the good results of the others without the evils.

Cloth tents can be medicated to meet the indication for any case or condition. For *dilating*, their continued use, increasing the size from day to day, they are preferable to other tents, especially where the mucous surface is diseased.

They are prepared by rolling a strip of cloth, of the desired width, firmly between the finger and thumb, regulating the size and length by distance of lap in the roll, and length of cloth rolled into one tent, the strips being about one inch wide.

THE RECUMBENT POSTURE IN THE TREATMENT OF UTERINE DISPLACEMENTS.

Dr. Wm. L. Edgar, (St. Louis Medical Archives, Aug., 1872.)

Dr. Edgar insists upon the importance of rest in bed, in the treatment of displacements, and attributes one-half of the failures to cure these ailments, to neglect of this all-important precaution.

ARTICLE III.—*Unsuccessful Attempt to Remove a Fibrous Tumor of the Anterior Wall of the Uterus—Death from Peritonitis.* By A. REEVES JACKSON, M.D., Surgeon-in-Chief of the Woman's Hospital, of the State of Illinois.

I was summoned to visit Abigail R. Hall, at Janesville, Wisconsin, August 26th, 1870, and obtained the following history :

The patient is forty-seven years of age, unmarried, and has a strongly-marked strumous appearance, with very light hair and complexion. She commenced menstruating at the age of thirteen, the discharge being regular and painless down to the age of seventeen. At that time, in attempting to lift a heavy weight, she felt a sudden pain in the lower part of the abdomen. Subsequently menstruation became habitually profuse, but recurred at regular intervals and was still painless. At the age of twenty-four, in alighting from a carriage, she sprang heavily from the wheel to the ground, and again felt a severe pain in the hypogastric region. A physician who examined her at that time stated that there was prolapsus and enlargement of the womb. Since that occurrence the patient has observed a slowly increasing fullness in the lower abdomen. Menstruation continued rather profuse, and leucorrhœa was present throughout the intermenstrual period. At the age of forty-one she had an attack of pelvic cellulitis apparently, which was followed by a copious discharge of pus through the rectum. Since that event the hypogastric enlargement has been more distinct, and has continued to increase, although not steadily. There have been times when it seemed to become less, and again at others would be attended with so much fullness as to occasion oppression of the breathing. These periods of unusual enlargement were associated with œdema of the lower extremities. The size of the abdomen was always lessened during and immediately after the menstrual flow. From August last to the following November there was no sanguineous discharge whatever, and during that period her general health was notably better than it had been for years previously. From November to March menstruation appeared irregularly at short intervals, and in diminished amount. It then ceased again entirely until three weeks ago—a period of nearly five months—during which time she grew rapidly larger, and the lower extremities became much swollen, the left one especially. Three weeks

ago a sanguineous discharge commenced and continued two weeks, during which time the dropsical symptoms subsided.

The present appearance of the patient is that of a woman who has undergone much suffering. She is pallid, has a rather stooping gait, and a worn expression of countenance.

An examination of the abdomen reveals the presence of a very evident tumor reaching from the navel to the pubic ridge, and traceable into the pelvis. It is firm, smooth, rounded, symmetrical, and non-fluctuating, resembling in shape and position the gravid womb, except in being much harder. In the right iliac region there is a spot that is tender under pressure; with this exception the tumor is painless.

The vagina is small, but presents no other noticeable characteristic. The cervix uteri occupies its normal position, but is shortened, and, the anterior lip especially, much thickened. The os is healthy in every respect. Under conjoined manipulation, with one finger of the left hand pressed against the cervix, and the other hand making simultaneous pressure upon the abdominal tumor downwards into the pelvis and rolling it from side to side, the cervix appears to move consentaneously with the tumor. A probe can be introduced only to the depth of about three-quarters of an inch.

Introduce a sponge tent as far as possible through the os uteri. This is done at eleven o'clock in the evening.

August 27th. At ten o'clock A. M. remove the tent and make another attempt to introduce a sound, with the result of finally passing it in about an inch and a half. In entering, it takes a direction backwards towards the rectum. When in this position motion is distinctly transmitted to its handle through the abdominal wall. I now pass an elastic bougie mounted upon a stout wire into the os uteri, and holding the distant extremity of the wire firmly with one hand, push the bougie onward into the cavity of the cervix with the other. It passes readily in to the depth of seven inches, thus showing the depth of the cavity but not its direction. From the course taken by the sound I suppose this to be backwards, but in order to remove any doubt on this point I introduce a finger into the rectum and distinctly detect the presence of the bougie through the recto-vesical septum. The diagnosis is a fibrous tumor of the anterior wall of the uterus.

I advise the external use of iodine over the site of the tumor,

and internally, muriate of ammonia in ten grain doses three times a day, the treatment to be continued many months; and encourage the patient by telling her that as the climacteric is now at hand, the tumor may diminish in size, or at least prove comparatively innocuous.

November 11th. To-day I visit Miss Hall at the Woman's Home, she having come to the city for treatment.

Her condition has not changed materially since I last saw her. She seems scarcely so well nourished, however, and states that the tumor is more painful, and that hemorrhages have been more frequent and at times very profuse. There is a considerable increase in the size of the abdomen, and the tumor has grown; the latter now extends to a point an inch and a half above the umbilicus, although a vaginal examination reveals no change from her former condition. She has not been able to take the sal ammoniac owing to the fact that it produced nausea. Sometimes she had taken it for three or four days consecutively, but so much impairment of appetite and irritability of stomach followed its use that she was obliged to discontinue it. Iodine in the form of Ung. Iodin. Comp. had been used regularly.

Inasmuch as there is no hemorrhage present, and no other symptom of an urgent character, I conclude simply to watch the case a few weeks before determining the question of surgical interference.

December 12th. The patient's general health is clearly giving way, and it becomes evident that she cannot live under existing circumstances more than a few months. There appears to be no other disease present than the uterine tumor; and the removal of this offers the only hope of warding off the impending result. The patient and her friends are fully apprized of the dangerous nature of the operative procedures necessary for the removal of the growth, and of the unpromising character of the case, and after due consideration decide to have the attempt made. The patient herself is especially anxious, and very sanguine of a successful result.

January 3rd, 1871. During the past three weeks the patient has been taking tonic medicines and using other various means for the purpose of getting her general health in as good condition as

possible prior to commencing operations. Notwithstanding this, however, she has lost strength rather than gained it. The tumor has been the seat of so much pain that she has been able to get very little sleep. Thinking it unsafe to delay any longer I introduce a sponge tent into the os uteri as far as possible.

January 6th. Have introduced a sponge tent every twenty-four hours, the size being each time larger than that of the one which preceded it. Remove the third one to-day, and am enabled to introduce the finger as far as the second joint. The tumor is now felt starting abruptly from the anterior wall of the cervix at a point about one inch above the os uteri.

Introducing a speculum, I divide the cervix, right and left, to within a quarter of an inch of the vaginal junction, by means of scissors. This is followed by pretty copious bleeding, which promptly ceases on the withdrawal of the speculum. Order ten grains of powd. ergot to be given every four hours.

January 9th. The ergot has caused much nausea, but produced no effect upon the uterus. I introduce a long-handled probe-pointed bistoury, guided by the finger, as high as possible through the now widely open os uteri, and make a tolerably deep incision into the capsule of the tumor. A small amount of hemorrhage follows the operation, and it ceases as before on the closure of the vagina. Order wine of ergot instead of the powder.

January 12th. The vin. ergotæ has acted more pleasantly and more efficiently, producing less nausea and exciting pretty severe contractile pains. The tumor and womb have settled lower down in the pelvis. After introducing a finger as a guide into the cervix, I pass an instrument with a concealed knife—resembling an urethrotome—to the highest attainable point, and projecting the blade into the capsule of the tumor, withdraw the instrument, pressing, as I do so, the blade firmly into the growth. In this way I make an incision about four inches long and nearly a half inch in depth. A very trifling amount of blood follows. The ergot to be continued every four hours.

January 26th. On the 21st there appeared a sanious gray and somewhat offensive discharge which contained small threads of putrid substance. The patient's appetite continues fair, but she seems weaker and does not sleep well. Her pulse which lately has been from 90 to 100, has risen to 120, and she is peevish and

fretful—a condition of temper more noticeable from the fact that naturally her disposition is extremely amiable.

I make another incision into the capsule of the tumor, and order a suspension of the ergot, giving, instead, a quarter grain of sulph. morph. with two grains sulph. quinia every six hours; also a glass of sherry wine with each meal.

January 30th. To-day the patient seems better. The grayish discharge is largely increased in quantity and highly offensive. Masses of the now softened and disintegrated tumor have been coming away, and the growth felt through the abdominal wall has become softened in places and imparts a feeling of semi-fluctuation. There is more marked tenderness in the right iliac region, which is greatly increased under pressure. She is less irritable, has slept better, and there is some improvement of the appetite.

February 1st. Was unable to visit my patient yesterday. To-day find her with well marked symptoms of peritonitis. The pulse is small, rapid and sharp; tongue dry and brown; abdomen tympanitic and very tender—the greatest tenderness still being on the right side, respiration short and shallow. Her countenance has a worn, anxious expression, and there is almost constant jerking of the forearms and wrists. She lapses frequently into a condition of semi-consciousness, during which she mutters incoherently.

Order hot turpentine stupes to be applied to the belly, and a quarter grain of sulph. morph. every three hours. Leave her at 11 A. M.

In the evening she is attacked with vomiting and great restlessness, with coldness of the extremities. She dies at half-past nine o'clock in the evening of February 2nd.

The post-mortem examination revealed extensive inflammation of the peritoneum, particularly in the neighborhood of the right side of the womb, involving the right ovary, which was thoroughly disintegrated and covered with lymph and pus. The tumor was found to be imbedded in the anterior wall of the womb, and its substance throughout showed signs of decomposition, especially in the neighborhood of the incisions. The extreme lower portion of the tumor was soft and shreddy and thoroughly phagedenic.

The incisions which had been made before death were now continued to the full length of the uterine canal, and then with

the fingers alone the capsule was peeled off from the tumor almost as readily as one would remove the rind from an orange. The weight of the tumor after removal from its capsule was four and a quarter pounds.

Remarks. Our successful cases are not by any means always the most valuable and instructive, and the case just related has been especially useful to the writer in teaching the necessity of caution in the treatment of uterine fibroids.

The time is not very long past when intramural tumors of the uterus were regarded as wholly unamenable to surgical treatment. And even now operative measures are restricted by many excellent practitioners to means designed to control the hemorrhages which are so frequent an accompaniment of these growths, and which form the chief element of danger. Others, however, have considered it justifiable to employ medical means for their removal in cases where their presence places the life of the patient in jeopardy.

These means for radical cure are now recognized as five in number, namely: 1. Incising the cervix uteri; 2. Incising the capsule of the tumor; 3. Mutilating the tumor by various means—usually termed "gouging"; 4. Enucleation; 5. Avulsion.

The first two named were both used in the case of Miss Hall, and commonly I regard it as best to combine them. The incision of the os uteri is based upon a theory which originated with Mr. Baker Brown that "the division of the os and cervix uteri permits the fibres of the body of the uterus to contract upon the contained tumor, and thereby to compress the vessels and check the hemorrhage." The operation, originally used only for the purpose of checking the bleeding, was found in some cases to be followed by expulsion of the tumor through the enlarged os, and thence came to be used as a means of inducing such a result. Dr. McClintoch, of Dublin, has practiced the operation very extensively, and as he alleges, with a good degree of success.

Incising the tumor has been a favorite operation with Dr. W. L. Atlee, of Philadelphia, for many years, and as early as 1853 he published for private distribution a valuable essay on "The Surgical Treatment of certain Fibrous Tumors of the Uterus," in which a number of cases were detailed in which the plan in question proved successful. In that essay, Dr. Atlee called especial

attention to a fact of great importance in the treatment of patients afflicted with the class of tumors under consideration. It was "*that the excessive hemorrhages which sometimes occur, arise not from the uterus itself, but from the vessels of the membrane which cover the tumor.* And the practice which he based upon this fact was "*During hemorrhage to pass the bistoury along the vagina into the cavity of the uterus, and make a very free incision into the most exposed part of the tumor.*" This appears at first sight to be a startling mode of practice, but from considerable experience I can bear testimony to its efficacy and safety. The incision is followed by a small gush of blood, and the hemorrhage which may have persisted for many days, is almost instantaneously arrested.

The success of this procedure as a radical means of cure depends, doubtless, upon the fact that these tumors are endowed with very feeble vitality, and that it needs but little disturbance to interrupt their nutrition. The proper uterine tissue does not enter into their composition; it is merely pushed aside by the neoplasm, and forms around the latter a covering or capsule. And so loose is the connection between the capsule and the tumor, that when a free incision is made in the former, the contractile power of the uterus is sufficient in many instances to push the tumor through the opening and finally expel it.

There were some circumstances in the case of Miss Hall which caused me to hesitate before resorting to surgical means for the removal of the tumor. They were, the large size of the tumor, the fact of its being the seat of pain, and the failure of the general health. These symptoms were all unfavorable to success. So long as fibrous tumors remain small, hard, painless, insensible to pressure, and do not interfere with any important function of the neighboring organs, or give rise to hemorrhage, they do not greatly impair the general health. And this is the time when they should be removed, provided they threaten to produce these results; for at this time their removal may result in complete cure. But after they begin to soften, are subject to attacks of acute pain, and are tender to the touch—symptoms denoting the degeneration of the growth; and when, in addition to these symptoms, there are also anasarca, ascites, emaciation and pallor, indicating the failure of the general system, it is usually too late for a successful operation.

Now some of these very unfavorable symptoms were present in this case. But it was evident that without interference death was imminent, and there was at least a possibility that an operation might result in cure. I think, too, that I was influenced, perhaps more than I should have permitted myself to be, by the entreaties and hopefulness of the patient. So soon as she learned that an operation offered her any prospect of relief, however small, she begged to have it done. I do not wish to be understood as offering this circumstance as a justification of a course of conduct my conscience did not approve, or my judgment did not sanction; on the contrary, I regarded the operation as justifiable under all the circumstances, and had I refused to interfere and the patient had died unrelieved, as she unquestionably would have done very soon, I should have felt that I had been recreant to my duty.

785 MICHIGAN AVE.

ARTICLE IV.—*Compressed Air.* Synopsis of a Lecture delivered before the Rush Medical College Students, Dec., 1872. By J. H. ETHERIDGE, M.D., Prof. of General Therapeutics, Rush Medical College, Chicago.

Gentlemen:—The therapeutical advantages of this agent are being shown to us by a few German and French investigators, and I propose, to-day, to briefly lay before you the results of the labors of one of these gentlemen, Dr. J. Lange, of Dresden, who has kindly sent me his published pamphlets on the subject.

Passing over the preliminary considerations of the subject, I invite your attention to a description of the apparatus used in administering compressed air baths. Due regard must be had to ventilation, and to ability to measure precisely the atmospheric pressure in constructing the apparatus. To meet these ends, the so-called "air bath bells," are constructed of iron sheets welded together hermetically. The bells are six feet in diameter, and eight or nine feet high, provided with a door opening inwardly. In the centre of the floor is a supply tube, connected with the pumps; about four inches above this tube is a circular platform, nearly six feet in diameter, and upon this are placed the chairs for the patients to sit on. The patient takes a seat, the pumps are

set in motion, and air is forced in gradually, almost inperceptibly diffusing itself throughout the bell, its outward pressure shutting the door hermetically, and the platform so distributing it—the air—as to avoid subjecting the individual to a draft.

At the top is a tube leading from the bell, which bifurcates—one arm being opened by a stop cock. Through this cock the air is allowed to pass during the whole bath—thus securing good ventilation. The pumps work constantly, and the pressure is regulated by the stop cock. When it is desired to gradually increase the amount of air-pressure, less is allowed egress through the waste pipe than comes in through the supply pipe under the platform, and *vice versa*. To the other arm of this pipe at the top of the bell, is attached a manometer, which indicates the air pressure within the bell with exactitude.

The bath generally lasts two hours—the first half hour is engaged in bringing the pressure gradually to the maximum—during the ensuing hour, the pressure is maintained without any variation, and during the last half hour the pressure is decreased till the normal standard is attained.

I now invite your attention to the physiological and therapeutical effects of this simplest of all remedial agents. They are really wonderful, and it will not be long before the facilities for administering compressed air baths will be found common enough in large towns.

EFFECTS ON RESPIRATION.

During the bath, the inspiratory acts are notably easier, that is, the power of the inspiratory muscles seems to be increased. The respirations become longer and slower, and connected with them is a sensation of easiness. Both these effects are noticeable in the healthy, but especially are they noticed by those patients troubled with thoracic diseases.

EFFECTS ON THE CHEMISTRY OF RESPIRATION.

Observations on this point are meagre. Up to a certain point of pressure the expiration of carbonic acid goes beyond the normal standard; at a higher pressure the amount of carbonic acid diminishes, and becomes less than in an ordinary atmosphere. An after effect of the bath consists in an augmented expiration of carbonic acid, which continues for some time subsequently,

eventually attaining a maximum, and then decreasing to the normal standard.

EFFECTS ON THE CIRCULATION.

To appreciate the remarkable effects of compressed air on the circulation, you must call to mind some of the forces constantly in play during life. *Outside* of the lungs, yet within the hermetically tight thoracic walls, are the heart and larger vessels. During ordinary *inspirations* these vessels are pressed upon by the outward distending lungs—the venous blood being impeded in its flow, and the arterial flow being promoted. This retarding the one, and promoting the other, is only *slight* in the ordinary atmosphere. During ordinary *expirations*, the mouths of the large veins opening into the thoracic cavity are made somewhat patulous, and this patulous condition produces aspiration, and the capillary blood is *sucked onward* towards the heart. Let me emphasize the fact, that this aspiration is only *slight* in degree—yet it is a small factor in ordinary circulation. In the compressed air bath, the effects of the air on the arterial and venous flow during *inspiration* and *expiration* are greatly increased, and we have, as a consequence, augmented *arterial force* (of flow), and *increased aspiration* at the mouths of the large veins, which aspiration results in an unusual activity and completeness of capillary circulation. Increased aspiration at the mouth of the subclavian causes a more complete evacuation of the thoracic duct.

In the bath, decreased heart pulsations are *never* absent in the healthy, and especially in patients with pulmonary troubles. The rate of decrease is not uniform in all individuals, nor at all times in the same person. At one time the diminution may be four or five beats—at another it may be twelve, fifteen or twenty beats. Bertin had a case of double emphysema, with the pulse at 106 or 108. After the first bath it fell to seventy-two beats—and continued to fall daily thereafter (under daily baths), till it reached forty-five, and there remained for a time, and for a long time thereafter it never went above fifty-six. In cases of lung trouble, where the pulse is too high, the baths always cause a diminution, which is permanent when the cure is established.

EFFECTS ON THE ANIMAL HEAT.

The thermometer always indicates an increase of temperature. When the pressure is diminished the heat is decreased, and the

patient becomes sensible of it. If the pressure is suddenly decreased, heat is suddenly made latent and the air vapor is precipitated in a thick fog. In many instances a disagreeable shivering is experienced in such trials.

EFFECTS ON MUSCULAR POWER.

The power of not only the inspiratory muscles is increased, but that of the whole muscular system, as may be proven by conducting experiments with lifting heavy weights with the hand. Under increased pressure increased amounts of weight can be lifted.

EFFECTS ON THE NERVE CENTRES.

In many persons is aroused a "feeling of spritual well-being, levity and liberty." One author, Tunod, asserts that it produces a flow "of rich ideas, with a tendency to verse making"!

EFFECTS ON TISSUE METAMORPHOSIS.

1*st. Digestion.* The baths always produce invigoration of the digestive function, as is shown by the increased appetite and the greater action of the intestinal offices. Increased aspiration on the subclavian causes increased speed of flow of lymph from the thoracic ducts into it. The thoracic duct is greater pressed upon by inspiration, and the flow of lymph is thereby accelerated.

2*d. Urine.* In most cases the urine is increased in quantity. Sulphates are increased—phosphates continually decrease till they disappear.

3*d. Augmentation of Weight.* This result almost invariably follows the prolonged use of the baths. In one case the weight increased from 154 to 162 pounds in thirty-eight days. In another, from 134 to 144 pounds in twenty-one days.

CONCLUSIONS.

All phenomena observed from compressed air-baths point to the one conclusion, that the nutrition is made more normal and better. All nutrition changes take place in the capillaries. The immediate effect of a bath is to induce capillary movement, such as many parts of certain systems seem to be strangers to, most of the time. The conditions seeming to call loudly for these baths are characterized by poverty of blood, deficient formation of blood, (as seen in chlorosis and in convalescents after debilitating diseases).

Special attention is called to the various thoracic diseases, as treated by this means, and results arising therefrom.

IN CATARRHAL DEAFNESS,

Unpleasant pressure on the tympani is experienced at first in the bath, but swallowing powerfully will equalize the air pressure on each side of the tympanum. Compressed air coming thus in contact with the congested eustachian mucous membrane, exerts a most happy effect on it, and the deafness disappears after a few baths.

IN LARYNGITIS,

Recent cases are almost invariably *speedily* cured by this treatment. Chronic cases are cured more slowly. Singers affected with laryngitis and hyperæmia of the vocal cords, sufficient to prevent vibration, and thus induce aphonia, are readily cured. Cures seem to remain thoroughly and persistently when treated with compressed air.

CHRONIC BRONCHITIS OR CATARRH.

In these cases we have hypertrophy and thickening of the mucous membrane and muscular coat, with a pus like, yellow or tenacious semi-transparent secretion, with loss of elasticity of the mucous membrane and muscular coat, and, therefore, much inclination to distention of the bronchi and to emphysema. Under compressed air baths the secretion is speedily checked, the mucous membrane and muscular coat regain their natural strength, and in most cases the amendment is so magical as to surprise not only the patient but the medical attendant. All these curative processes are effected solely through a bettered nutrition. There is not much hope of cure of sacculated dilatations in this trouble.

IN CONVALESCENCE

From acute bronchitis — especially the capillary form — compressed air is particularly applicable, for two reasons:

1st. To remove the residue of the disease, and the beginnings of sequelæ, as distension and emphysema.

2d. To secure prophylaxis against relapses, which are a prominent feature of after conditions, from capillary bronchitis and ordinary bronchitis.

IN DISEASES OF LUNG PARENCHYMA,

The effects of this agent are astonishing, but especially noticeable are its good results in emphysema. Until observations were made with this remedial agent, idiopathic emphysema was deemed incurable; now, however, we see the patient running up stairs, or ascending mountains, who was once unable to take a few steps on a level without gasping for breath—sleeping in any position at night, when previously the horizontal position would have been death to him; we hear normal sounds in the lung; we find the liver and heart have found their normal position; we find a great diminution in chest measurements, and a disappearance of the "barrel-shaped" chest.

All these changes are effected in a few weeks by baths—changes which no other agent has ever secured in emphysema previously.

TUBERCULOSIS OF THE LUNG.

Deficient nutrition causes tubercle in properly disposed persons. Hyperoxidation restores nutrition in such cases. Under compressed air baths all the bad symptoms of this disease slowly disappear. The spirometer actually shows increased lung capacity. Tubercles become atrophied and calcify, and the soft matters of them become absorbed. Even where vomicæ exist, much good is done by baths. Where interstitial tubercularization exists, no hope can be entertained.

I hoped to have had time to allude to the sparse experiments made in cases of organic heart disease, but I cannot do it at this time. I trust I have said sufficient to convince you that we have an unequaled agent in compressed air, and I hope that the day is not far distant when the baths can be taken in any town of our country, and will be freely used by rational, intelligent physicians.

ARTICLE V.—*Relations of the Integumentary and Generative Organs.* By JAMES N. HYDE, M.D., Chicago.

The exterior investment of the body, including its various glandular, hairy and ungual appendages, is manifestly designed to protect and preserve the structure which it envelops. Viewed in this light alone, it is not obvious that the cutaneous surface has

either an anatomical, physiological or pathological connection with those organs which are concerned in the reproduction of the species. And yet it may be made to appear, from a collation and comparison of well-ascertained facts, that, not only does such a relation exist, but that it exceeds that acknowledged union between each organ of the body and every other, by virtue of which the whole enjoys a symmetrical existence.

In the human fœtus, the germinal membrane of the blastodermic vesicle, soon after the segmentation of the vitellus, subdivides into two layers, which rapidly assume distinctive characters, and eventually give rise to two widely different systems of the living economy. The serous or animal layer is that which is external, and from it is derived the integument, as well as the organs which are essential to animal life. The mucous or vegetative layer is internal, and from it are developed the true viscera and the organs necessary to the continuance of organic life. These two lives are, thus early in embryonic existence, distinctly separated; and, thereafter, as Bichat says: "they may exist, the one independent of the other, though they were, without doubt, intended to be reciprocally supplementary."

Since, then, there is found to be a common primitive source of derivation for each of two distinctly different systems in one individual, it is natural to conclude that we shall discover certain physiological and pathological relations between those organs which are engaged in the fulfillment of the functions of the same life. It has been already seen that the integument is a derivative from the external animal layer of the ovum; let us ask in which of the two lives are the reproductive organs most interested, and whether, either wholly or in part, they are descended from the same embryonic layer.

About the fifth or sixth week of fœtal life an external cloaca can be seen, which is the termination common to the intestines, the uterus and the sexual organs. By the tenth week, the "urogenital sinus" appears, in consequence of the development of a transverse band separating it from the anus. This sinus subsequently, in consequence of a similar process of division, displays a "pars genitalis" and a "pars urinaria," the latter extending to the urachus. Two folds of integument on either side of the orifice develop into either scrotum or labia, with an erectile body

between, which is either subsequently retracted to form a clitoris, or elongated to become a penis.

So much for the external genitals. They evidently originate from the same primitive layer as the other external portions of the fœtus. The uterus, far from being the result of a coalescence of the Fallopian tubes, as was at one time believed, is derived, with the vagina, from the genital portion of the "uro-genital sinus"; and the distinction between the two is secondary, and effected by a subsequent demarcation of that portion of the sinus into a vaginal and uterine tract.

But it is generally stated that the essential organs of reproduction are the testes and ovaria. These are, it is true, derived, like the viscera of digestion, from the internal vegetative layer of the blastoderm, but the subsequent career of each—of the testes, at least—differs widely from that of their congeners. They are first formed in a mass of blastema lying in immediate connection with the Wolffian bodies. But very early in fœtal existence, the gubernaculum is found starting from the filamentous tissue of the scrotum, and fixing itself to the antetype of the epididymis, just as the round ligament rises from the labium of the female and attaches itself to the ovary. The testes then commence their descent, and, at the completion of pregnancy, ordinarily arrive in the scrotum, the cavity of which is speedily cut off from the general abdominal interior. Thus the testes are by a natural process set aside, as it were, from the organs concerned in organic life, and placed in immediate connection with those external parts, with whose function they are so intimately concerned. The ovary, on the contrary, remains fixed in the abdominal cavity, and, so far as regards its location, is not to be distinguished from portions of the vegetative apparatus.

It should be stated, however, that, even so recently as 1872,* it has been announced that the "cord" or "duct of Miller," which extends into the pelvis from a point between the Wolffian duct and the generatic glands, forms, by subsequent union with its fellow, the uterus and vagina, the divergent portion being converted into the Fallopian tubes. In the female, atrophy of the Wolffian bodies is said to produce the parovarium, or organ of

* Dr. Jenks, Am. Journal of Obstetrics, p. 738.

Rosenmuller, and in the male, the epididymis; the Wolffian duct being subsequently converted into the vas deferens.

Now, if the ovary and its function be physiologically considered, it will be observed that in one important particular it differs from all other adjuncts of reproduction, and is assimilated to the organic viscera. The function of other accessories of generation may remain unexcited and inactive during the entire life of an animal or vegetable, without impairment or derangement of physical health. This is not true of ovulation.

"Generation," says Bichat, "does not enter into the series of phenomena incident to organic and animal life. These are essential to the individual—that to the species. Its functions are aroused, only when all others have long been exercised, and its career is at an end when the latter are still in full activity. In most animals its periods of excitement are separated by long intervals of nullity; in man, where such remittance is less prolonged, it has no greater connection with other functions. Ablation of the generative organs is usually succeeded by a general increase in the processes of nutrition. The eunuch possesses, it is true, less vital energy; but the general phenomena of life are, in his case, displayed with greater profusion." While this is true, it is clear that the two lives, the organic and the animal, are best studied in connection with the alternative phases of *asexual* life, and *sexual* life. That life may be termed asexual in the adult, where no communication of the sexes occurs, and in sexual life, strictly speaking, the functions of the generative organs are duly awakened to activity. Now in asexual life, ovulation, when no abnormal conditions exist, proceeds with undeviating regularity; and experience everywhere teaches that such regularity is essential to perfect organic life. Interference with ovulation disturbs the entire economy, but its effects are displayed to a greater degree by perversions of order in the vegetative processes, than in those pertaining to animal life. The hæmatopœtic function is, in such cases, almost primarily deranged.

Nor need it be concluded that the uterus, if it be a development from the external blastodermic layer of the germ, has more than a sympathetic connection with the process of ovulation. This is abundantly demonstrated by cases in which there is a congenital absence of the womb. In the October number of the "American

Journal of Medical Sciences," for 1872, Dr. T. R. Brown, of Baltimore, reports a case of vicarious menstruation by epistaxis, in which death occurred from causes unconnected with the peculiar malformation; and in which an autopsy was made. No uterus was discovered, the bladder and rectum were firmly adherent—the ovaries were perfectly formed and in a normal position. Ovulation had recently occurred, and corpora lutea were found in various stages of degeneration.

The development of the sexual organs of plants seems to indicate the natural plan of their morphology. The essential parts of a pistil are the ovary and the stigma—the style may be viewed as the prototype of a Fallopian tube. The stigma corresponds to the external genitals, the ovary to the gland called by the same name in animals. Now the simple pistil, according to the botanist, Gray, "consists of the blade of a leaf, curved until its margins meet, and forming a closed pod or case, which is the true ovary. The upper face of the leaf answers to the inner face of the ovary—the lower to its outer surface; the tapering summit rolled together and prolonged, forms the style, when there is any; and the edges of the altered leaf, turned outward, either at the tip or along the inner side of the style, form the stigma." But the function of the leaf is that of a true viscus of digestion. No other portion of a plant exhibits greater organic activity. It is a depository of food in the seed-leaf of the bean. In the Sarracenia Purpurea, (so much vaunted a few years since in the treatment of variola) it serves, like the stomach of the camel, as a water carrier. In the Dionea, it is a fly-trap; in the tulip, its underground base is a reservoir for the nutriment requisite during the ensuing year. This indicates the affinities of the ovary in vegetable life. Let us ask further, if ovulation is essential to asexual life in plants, and whether it occurs where there is a natural impediment to sexual union.

Monœcious plants, as is well known, produce perfect flowers and seeds when individuals are isolated by transplantation or otherwise. Of the Atralia Spinosa, a polygamous plant, Mr. Thomas Meehan, of the Academy of Natural Sciences in Philadelphia, says: "When the flower-scape elongates, a very strong umbel of female flowers appears. A secondary series of female flowers succeeds this, and finally, a third series appears, which become filled with

polleniferous anthers. The whole of the first series of flowers falls unfertilized, *before the male ones can possibly appear.*"

To return to the ovary of the human female, it may be further observed, that, in an anatomical point of view also, it is distinguished from the other generative organs. The mucous lining of the urethra is continuous with that of the secreting surface of the testis. The mucous wall of the vagina and uterus, on the contrary, is not continuous with the interior of the ovary; but the Fallopian tubes open abruptly to the peritoneal cavity; and this is said by anatomists to be the sole instance, in the body, of continuity of a mucous and serous surface. Reichert held, that "in the grouping of tissues, as soon as one part can be made out to be continuously (by union, not mere juxtaposition) connected with another, both must be regarded as parts of a common whole." When, therefore, we do not find such continuity between parts whose function is correlated, it is natural to inquire into the reasons for departure from an established rule.

Certain pathological facts strengthen the idea that the ovary is removed in its diseases from the other generative organs. Metastasis of mumps, for example, occurs in the male, from the parotid gland to the testis; in the female, to the mamma and never to the ovary. Now the mammary gland is produced by a development from the external surface. Remak was the first to establish the fact that "glands in general must be regarded as consequent upon a direct process of proliferation on the part of epithelial structures." The mamma is formed by a repeated division of epithelial cells, until a little process extends inward, spreads out laterally, and finally constitutes a body continuous with originally external cells. The ovaries, as Virchow has pointed out, are the only exceptions to this law in the human body, since their follicles are only periodically open. But the mamma exhibits no functional activity in asexual life, while the function of the ovary is essential to perfect asexual life in the female.

The history of cancer also throws some light on this subject. Paget has shown that "cancer-cells are formed on the type of excretory gland cells and epidermal cells." The term "heterologous" cannot then be properly applied to pathological formations, if they be all greater or less imitations of simple tissue, occurring at unusual times, or in unusual locations, or assuming development of an

usual grade. We should, therefore, consistently expect to find that cancer most frequently invades such glands and tissues as are found in the integumentary and generative systems. Such is, in fact, the case. The lip, the mamma, the skin, and the testicle, are exceedingly apt for the formation of primary cancerous growths. Scirrhous tumors of the skin occur both secondarily and primarily, and occasionally precede mammary cancer. The latter affection occurs in ninety-eight per cent. of cancerous females—and generally between the ages of 45 and 50 years—or about the critical period of the menopause. About thirty per cent. of cases of medullary cancer affect the testicle—a larger proportion than that applying to any other single organ. Cancer of the ovary is extremely rare, and, when it occurs, it is generally secondary to an affection of contiguous parts. On the other hand, it may be said, that the cystic degenerations of the ovary are equally rare in the other organs of generation. Yet Dr. Walshe, in an endeavor to dissociate the phenomena of cancerous growths from all sexual complications, observes, that "everything which has been said to explain the liability of the breast and the womb to this disease, may be equally said of the ovaries, which are comparatively rarely cancerous." The reasons which explain the want of affinity between these organs, have already been considered.

Comparative physiology establishes with great distinctness a relation between the integument and the sexual parts. It is unnecessary to enlarge upon the development of the antlers of the stag, the increase in brilliancy of the plumage of certain birds, and the changes in the color and character of the fur of several species of animals, during seasons of sexual excitement, in order to develop such a relation. Indeed, it seems as if the outgrowth of external genitals bore an inverse ratio to the exhibition of sexual difference in the integument, in some forms of the animal kingdom. In those, for example, which have external organs of copulation largely developed, difference of sex is less noticeable in the skin and its appendages; while in those whose reproductive organs are wholly internal, as in those birds which have a common duct for the extrusion of the semen, or ova, and fæces, difference of sex is strongly declared by feather-coloring, comb, wattles, talons, etc. Among marsupials, the "Macropus Giganteus," or

kangaroo, has a common cloaca for intestinal and genito-urinary function, and the female is distinguished externally by the sac in which her young are carried.*

The changes coincident with the arrival of puberty in man, are marked externally by corresponding alterations. In the male, the beard appears, and the pubic and axillary hairs. In the female, there is a notable difference in the facial color and expression. Aberrations from normal pubescence are immediately indicated upon the surface of the body. "Chlorosis" is a term which in itself suggests chromatic changes of the skin and abnormal menstruation. "Anatomical observations," says Virchow, "indicate that the foundations of the chlorotic ailment are very early laid, for . . . the sexual organs are frequently very imperfectly developed." Unsatisfied or perverted sexual instincts also, at

* "In these mammals, the teats of the female are found in the marsupium or pouch. In many respects they are allied to the oviparous vertebrata. In the female, the marsupial bones assist in producing compression of the mammary gland, which is necessary for the alimentation of a peculiarly feeble offspring; and they defend the abdominal viscera from the pressure of the young, as they increase in size during their marsupial existence; and still more when they return to the pouch for temporary shelter. In males, these bones are subservient to the reproductive act. These mammals are also aplacental, and their period of gestation is but thirty-nine days. (In the Virginia opossum, which, however, is destitute of the marsupium, it is twenty-nine.) The young are produced in such an immature state, that earlier observers believed they originated like buds, from the nipples to which they saw them attached. The appearance presented by a young kangaroo of one of the largest species, within twelve hours of its being deposited in the pouch, is described by Prof. Owen, from personal observation in the Zoological Gardens, as follows: 'It resembled an earthworm in the color and semi-transparency of its integument, adhered firmly to the point of the nipple, breathed strongly but slowly, and moved its fore-legs when disturbed. The body was bent upon the abdomen, its short tail tucked in between the hind legs, which were one-third shorter than the fore-legs. The whole length from the nose to the end of the tail, when stretched out, did not exceed one inch and two lines. The mother apparently employs her mouth in placing the young at the nipple, where it remains suspended, involuntarily absorbing milk for a considerable time (probably two months on an average) after which for some months it sucks spontaneously. Although from the first it is enabled, by the muscular power of its lips, to adhere firmly to the nipple, it does not possess strength to obtain the milk by the ordinary process of suckling. In this process it is assisted by the adaptation of a muscle to the mammary gland, which, by contracting, injects the milk from the nipple into the mouth of the adherent fœtus.'"

the puberal period of life, are betrayed by familiar external appearances.

There is some reason to believe that the pigmentary deposit in the skin is more intimately connected with the phases of generation than any other constituent of the epidermis. The extent of variability in the number, and shade of color, of pigment granules, probably exceeds that of any component of the cutis. It is a matter of common observation, even among the negroes of our own country, that exceedingly dark individuals have unusually developed genitals, and that although the race in America has been greatly modified by intermarriage and acclimatization. Few who have observed the negroes in Africa (and my own experience extends to those who are habitually naked on the Coast of Guinea, as well as the Fellahs and Fellahines of lower Egypt,) can have failed to notice this fact. With them, the mamma is apparently destitute of the globular form common in the Caucassian races. But this is an apparent difference only. At puberty, a period which in these dark-skinned races is determined at a very early age, the gland is not unlike that of the white race. Subsequently, it elongates to such an extent, that it is possible for a mother to suckle her infant while it is supported on her back. The negroes are known to be inordinately erotic. Whether they are correspondingly prolific, cannot perhaps be, at this time, determined by statistics. But that they do not enjoy corresponding constitutional vigor, may well be doubted, in view of their extreme predisposition to tuberculosis, scrofula and rickets.

Now, if it can be shown that a congenital or acquired *absence* of pigment granules in the skin, is a concomitant of impotence or sterility, the relation of the rete mucosum to the genital organism can be more clearly detected.

The study of albinism offers such a field for observation. The skin of the pure albino is of a dull, milky-white color. His hair is exceedingly fine, and of a clear white or dirty-yellowish hue. His entire body is covered with a white down. The fundus of his eye is brilliantly red, and its iris is either red or completely transparent. His constitution is delicate; his temperament lymphatic. The depression of the forehead, the flattening of the nose, the prominence of the cheeks, and the woolly character of the hair, as well as an African nativity, usually justify the appellation of "white negro,"

which he has received, and give him the peculiar stamp of an African physiognomy.

The anatomist Buzzi, who has carefully studied these phenomena, declares that he has never found in complete albinism, any trace of the corpus mucosum, nor any pigment granules in the hair. Maurice Raynaud, in a monograph on this subject, remarks that retarded menstruation and sterility are said to be common in female albinoes. "In fact," he proceeds to state, "it does not appear that we possess a well-authenticated case of a child born of a father and mother both albinoes; but there are several recorded cases, where one or both of the parents presented this peculiarity. Ichthyosis was discovered in four of five albinoes examined by Rochas, and in others a corresponding tendency to cutaneous disorders.

Melanopathia, or Addison's disease, is an affection characterized by abnormal coloring of the cutaneous surface. It is perhaps true that its investigation has not yet extended to that point where we can rely upon deductions from its statistics; but it is worthy of remark, that while most observers have had their attention closely directed to the connection between the pigmentary changes and the lesions of the supra-renal capsule, they have not failed incidentally—and perhaps unwittingly—to record a correspondence in derangements of the organs of generation. In the London *Lancet*, for October, 1870, Mr. Houghton reports a case of Addison's disease in a girl seventeen years old, having a tawny skin and herpetic pustules on the face. She had never menstruated, her breasts were undeveloped, her nipples small, and their areolæ quite brown.

Subjoined is a table of sixteen cases of this disease, out of 185 collected in a monograph by Dr. Jaccoud, in each of which it appears that some disorder of the generative organs co-existed with the bronzing of the skin. In all of these cases there was more or less disorganization of the supra-renal capsules—in the last four, however, the cutaneous lesion was not evident. It should be added, as worthy of note, that in 67 of 107 of the cases collected by this author, the supra-renal glands were only secondarily affected.

No.	Antecedent and Post-mortem History.	Sex.	Age.
11	Cancer of uterus,	F.	28
12	Double ovarian dropsy,	F.	48
35	Retraction of testis,	M.	43
41	Dystocia and perineal laceration,	F.	37
36	Syphilis,	M.	32
66	Suppression of menses,	F.	16
75	Uterine tormina,	F.	47
90	Purulent catarrh of Fallopian tubes,	F.	(?)
94	Excessive post-partum hemorrhage,	F.	40
98	Tumor of right testicle,	M.	33
118	Suppression of menses and ovarian dropsy,	F.	19
127	Entire surface covered with short black hair, extreme development of external genitalia,	F.	3
2	Cancer commencing in clitoris,	F.	81
3	Eclampsia, confinement, and death in three days,	F.	(?)
18	Cancer of uterus,	F.	(?)
45	Sudden death after confinement, at term,	F.	(?)

Of these 107 cases the greater number suffered between thirty and forty years of age—a period of great sexual activity.

There is no standard by which the relative depression of the vital forces in disease can be estimated. The pulse may be registered by a sphygmograph—the temperature, by a thermometer—but it cannot be discovered whether the virile power, which is usually held in abeyance in pathological conditions, is normally quiescent, diminished, or suspended. But in convalescence, we have a qualified opportunity for such investigation. Are evidences of a restoration of this faculty more common in convalescence from disorders having cutaneous lesions, than in others? It is well known that many such lesions, originating from constitutional causes, become, after extinction of such causes, grave maladies of themselves. There are few morbid changes in the skin, where the whole surface is so generally involved, as in yellow fever. I have seen patients afflicted with this disease, whose skin assumed, not a yellow hue, but a color suggestive of incipient gangrene. Now in convalescence from yellow fever the proofs of an unusual and excessive awakening of the venereal appetite, are too numerous to be disregarded. La Roche, who has exhaustively described this disease, refers to this fact, as well as other authorities, who also agree with him in the belief that in latitudes where liability to epidemics of the scourge exist, no one of its predisponents equals in importance excessive sexual indulgence.

Thus far, those cutaneous disorders have been cited which im-

plicate the whole, or very extensive areas, of the integumentary surface. But the etiology of most of the other eruptive diseases has been arranged by dermatologists to include derangements of the generative organs. Among these eruptions may be mentioned —erythema, (both E. fugax, E. laeve, E. intertrigo, and E. tuberosum), as well as the varieties of erysipelas, roseola, urticaria, prurigo, eczema, impetigo, ecthyma and pemphigus. Nor are the exanthematous fevers exempt from complications having regard to the same organs. "An attack of measles," says the late Dr. Trousseau, "is frequently the cause of gangrene of the vulva and vagina in female children—in fact, vulval excoriation may serve as a door of entrance for the malady." Scarlatina is not an infrequent cause of abortion; and the same may be said of variola—the abortion, when occurring, being generally isochronous with the appearance of the pustules.

In a discussion of the subject of acne, before the New York Academy of Medicine, November 7th, 1872, Dr. Weisse took the ground that as the sebacious follicle is but an appendage of the hair follicle, and the sebum matures pomatum for the hair, the coincident activity in the development of hair and the secretion of sebum, is readily appreciated. From eighteen to twenty-five is the period during which occurred, probably, three-fourths of all cases of "folliculitis seboforæ;" and it is more common in males on account of the growth of the beard at this period. Dr. Peters thought it was connected with uterine and ovarian derangement, and that pubescence was a common coincident condition. Dr. Keyes considered acne in the young to be often a signal of sexual distress, of unqualified or perverted sexual yearning, perhaps often unrecognized by the patients; and while he believed in a connection between this cutaneous affection and certain uterine derangements, functional or otherwise, yet neither of these conditions was necessarily connected with the other. As regards treatment, he believed in the curative power of a well-regulated sexual hygiene. Dr. Robert W. Taylor was skeptical as to the origin of acne in uterine derangements; and did not believe that uterine catarrh, or flexions of the uterus, had any influence in their causation; nor had he been able, though he had studied the matter carefully, to make up his mind that such connection existed. Dr. James L. Brown expressed a similar opinion. The president stated that, if an unmar-

ried woman, between twenty and thirty years of age, should consult him for relief of acne, he would inquire into the state of the bowels and kidneys, before inquiring about any uterine derangement; and then he would ascertain if the menstruative secretion was normal. In the case of a married woman, affected with acne, he would first find out whether there was uterine irregularity or ulceration. He thought there was a direct connection between acne and these disorders, although it was not sometimes very evident. The eruption about the mouth, mentioned by Dr. Taylor, was, perhaps, more marked in uterine affections.

These opinions are given to show the wide difference of belief on this subject, among members of the profession eminent for an acquaintance with it. In my own experience one decided case has corroborated my own belief in the causation of the disease under discussion.

Mrs. S—, the mother of one child after eight years of married life, applied to me for the relief of confirmed acne rosacea of the face, of over two years duration. Her appearance was so unsightly that it had almost isolated her from the society in which she had once moved. She had previously resorted to the iron-magnetic springs of Michigan, with some benefit, but the disease had recurred with great severity. For a period of four months I tried the polypharmacy advised by various authorities, and was convinced more than ever, after failure of all treatment, that the disease had been justly named the "reproach of medicine."

Dr. Horatio L. Storer had lately called the attention of the profession to the disastrous results to women of the various means used to prevent conception. Suspecting, finally, that such a cause might obtain in this case, I discovered by questioning that, immediately after insemination, she had recourse to vaginal injections of cold water. On examination, I discovered moderate cervical engorgement. On the strength of my representations she completely abandoned the practice, and in ten months thereafter I delivered her of a healthy female child. The acne disappeared gradually without further medication, and the patient returned to that society from which she had been debarred by her ailment.

Syphilis is a disease which affords a striking example of the connection between the integumentary and generative organs. It effects its entrance to the system by way of the latter—it expends

the maximum of its force upon the former. While all the organs of animal life are subject to its destructive agencies it rarely affects the organic viscera. And such affection, if it occur, is peculiar to the later phases of the malady, when it is modified greatly. As a tertiary form, it is subject to different influences, and moderated or entirely removed by different medicaments, from those available in its secondary manifestations.

In conclusion, it may be remarked that however difficult it may appear to be to account for the affinities heretofore suggested, a link of connection may be found in the scope of two great general influences—the hæmopathic and the neuropathic. The alteration of the maternal blood in pregnancy by the admixture, for the first time, of its corpuscles with those secreted from the walls of fœtal vessels, must be exceedingly important; and the suffusion of the vascular elements of the cutis, at all times, with the vital fluid, exposes a large amount to external influences. The genitals and the skin, again, have unsurpassed nervous connections with the cerebral and ganglionic centres. The alteration of the circulation in the cheek during the act of blushing, as well as the change in the position of erectile genitalia, occur under the stimulus of mental and nervous impressions. Such phenomena may be said to be "excito-sensori-reflex."

Floriculturists may be said to demonstrate the fact of a law of compensation, to which these organs are subject. They assert that interference with the rootlets of a plant, while it is young, stimulates at once the reproductive function; as if the individual hastened to reproduce its kind, in anticipation of premature death. And further, that the artificial production of colors in the corolla of flowers, is effected only in accordance with the laws which regulate the generative organism of plants.

In view of all that precedes, it may be concluded that certain physiological and pathological relations, as stated at the outset of these remarks, exist between the generative and integumentary structures; that that assembly of reproductive organs, which is assimilated by function and development to those of animal life, has a more intimate connection with the external surface than that organ which displays the affinities of the vegetative viscera; and that a knowledge of the condition of one series of correlated phenomena, is essential to a correct appreciation of the other.

Editors' Book Table.

[NOTE. — All works reviewed in the columns of the CHICAGO MEDICAL JOURNAL may be found in the extensive stock of W. B. KEEN, COOKE & Co., whose catalogue of Medical Books will be sent to any address upon request.]

BOOKS RECEIVED.

Dental Caries and its Causes. An Investigation into the Influence of Fungi in the Destruction of the Teeth. By DRS. LEBER and ROTTENSTEIN. Translated by THOMAS H. CHANDLER, D.M.D., Professor of Mechanical Dentistry in the Dental School of Harvard University. With Illustrations. Philadelphia: Lindsay & Blakiston. 1873. 8vo. Pp. 103. Extra Cloth, $1.50.

The best exposition of the subject, it has been our fortune to meet. Dr. Chandler has merited the thanks of both dentists and physicians, in furnishing them this *brochure* in English dress.

First Annual Report of the Supervising Surgeon of the Marine Hospital Service of the United States. For the Year 1872. Containing a Brief Historical Sketch of the Service, from the date of its Organization in 1798.

Our thanks are due John M. Woodworth, M.D., the Supervising Surgeon, for a copy of his report. At the time of his appointment, we congratulated the Department on securing his services, and the present report amply sustains our opinion. We are particularly pleased at seeing under the caption, "Proposed New Hospitals," this sentence italicized: "*I particularly favor constructing all the hospitals of wood, and destroying them after ten or fifteen years, both as a sanitary and economical measure, and building new ones in their stead.* The prime object to be attained, is to secure favorable results in the treatment of diseases and injuries—an object which has been, in the past, subordinated to architectural design, and frequently to the favoring of certain localities. A permanent building of brick or stone should be constructed adjacent to, and separate from, each hospital building, to contain the heating apparatus and laundry." This is the true, the sound and modern doctrine, and the city of Chicago (or Cook Co.) should thoroughly investigate it, before entering upon the business of reconstructing its general hospital. Meanwhile, we extend our thanks to Surgeon Woodworth for his frank statement.

The Medical and Surgical History of the War of the Rebellion, (1861–65). Prepared in Accordance with the Acts of Congress, under the direction of Surgeon General JOSEPH K. BARNES, U.S.A. Washington: Government Printing Office. 1870. Part First, Medical Volume, pp. 726, and Appendix, pp. 365. Part First, Surgical Volume, pp. 650, Text; pp. xiv, Index, etc.

We have no time at present to write more than our thanks to the Surgeon General for these superb volumes, which demonstrate that in the hands of the Medical Department of the U.S.A., under his guidance, medical and surgical science will receive an impetus to be felt everywhere throughout Christendom. For our science can never be perfected by microscopic observation alone. The macrocosm as well as the microcosm is to be put under surveillance. Since the world began, there has never been a series of observations so comprehensive, and yet so minute and accurate, as those which are now first appearing in systematic form in these volumes. We shall look for each succeeding issue with high expectations.

The Science and Art of Surgery. Being a Treatise on Surgical Injuries, Diseases, and Operations. By JOHN ERIC ERICHSEN, Senior Surgeon to University College Hospital, and Holme Professor of Clinical Surgery in University College, London. A New Edition, Enlarged and carefully Revised by the Author. Illustrated by upwards of Seven Hundred Engravings on Wood. Vol. 1, pp. 781; Vol. 2, pp. 918.

It is superfluous to repeat the encomiums with which we have from time to time greeted the appearance of successive editions of this invaluable work. It stands pre-eminent among all the standard books on surgery. It is the great manual of practice. An old and well-thumbed copy of the American edition of 1860, stained and discolored by use and exposure, picked up, April 7, 1862, on the battle field of Pittsburg Landing, is at this moment on our office table, and we can well imagine the discomfiture of the late Confederate surgeon at its loss. On comparing the two copies, we find that each mirrors the practice of surgery at the time of issue. All through the volumes, we find evidence of most industrious and conscientious revision. Although much that had become obsolete is omitted, nevertheless, necessary additions have swelled the number of pages from 996 in our Confederate copy to

1699 in that before us. That copy has 417 illustrations, and this over 700. Hence the necessity of furnishing it in two volumes instead of one. The present edition is a splendid specimen of the printer's and binder's art, and the publisher cannot be too highly commended, for his good taste and liberality in sending out this cyclopædic treatise in such elegant garb. By the by, in turning over the leaves of our "Confederate copy" we happen on this prescription, hastily written in pencil on a scrap of paper, which shows several things needing no comment. We sincerely trust that the former owner of this book is now gathering, plentifully, of lawful greenbacks in the Sunny South, and not mourning for the enormous fees formerly paid him in Confederate scrip. Here is the prescription:

"Dr. Eve's Recipe for Gleet and chronic irritation of the urethra:

Balsam Copaiva,	1 oz.
Pulv. Cubebs,	½ "
P. Gum Arabic,	1 "
Spts. Nitre,	1 "
Syrup Buchu,	4 "

Cinnamon Water to fill black bottle.

Dose, 2 tablespoonfuls twice a day."

☞ Quite a number of Book Notices, already in type, are unavoidably crowded out of this issue, which will appear next month.

Editorial.

Fees versus Salaries.

One "Dr. Holland" (whether M.D., D.D., or LL.D., is to us unknown,) is a writer of books seeking fame and fortune, and in the interim of their publication, a writer for newspapers and magazines, with getting the daily bread for the laudable "final cause." In one of his recent temporary flights, he has succeeded in getting noticed by the newspaper press, and hence his magazine article finds larger perusal than it would have secured had it not passed out from the pages where it first saw the light. In this way it has fallen under the Editorial Eye of this JOURNAL, and we are moved to call attention to some few things which intimately concern the

medical profession. He assumes that the rewards of professional and literary labor are too largely unequal, the advantage being with the professions. And then, that the lawyer and physician as "a notorious fact" have the advantage of all the other professions. *Ait:*

"There are two forms of income attached to this variety of work, viz., that which arises from salaries, and that which arises from fees. The former is fixed by the community for which the work is done, and the latter by those who do the work. The salaried man enters the market and sells his services at the highest rate which they will command in competition with others. The man of fees combines with his brethren to fix a compensation for his services, which compels the community to take them at his valuation or to do without them."

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"The men of fees are the physician and the lawyer. One has to do with the physical diseases of men, and the other with their legal quarrels and their crimes. We do not, in the slightest degree, disparage the usefulness of these two classes of professional men; we simply say that the better the other classes perform their work the less these have to do. They live upon the moral and physical evils of the country; and there is no reason in the nature of their calling for their advantage in pecuniary rewards over the other classes. There is no reason why a general practitioner of medicine, or a specialist in medicine or surgery, shall sit in his office and take in a single fee, for a service that costs him fifteen minutes of time, a sum equal to that which a teacher or a clergyman works all day to win. There is no reason why a physician, called into a house in consultation, should charge for his service a sum that it takes an editor two days of hard work to earn. There is no good reason for the setting of a price upon a surgical operation, performed in half an hour, that the most successful author's copyright cannot pay in a month. It is simple, inexcusable and outrageous extortion. If we go from the physician to the lawyer, we find still higher fees."

etc., etc. But the lawyers may look out for themselves.

That such ineffable *twaddle* should find admission to what claims to be a high toned, first class periodical (*Scribner's Monthly*,) and especially, be paid for, almost surpasses belief. Similar reasoning would put the wages of Dickens, Thackeray, and all other writers of highest repute on the communistic level with the shabbiest penny-a-liner of the daily press. It would put the costly lectures of Beecher and Phillips in the same category of prices with those of the home-made orators of a village lyceum.

If "Dr. Holland" knows anything of a science called Political Economy, he must know that one of its first laws is, that the *Demand* regulates the *Supply*. If the demand is in excess of the supply, prices rise; if less, prices fall.

If the rewards of any particular branch of industry or profession are beyond those of others, then there is a rush into that business, until the equilibrium is restored.

If the medical profession were, on the whole, more lucrative than the others, there would be a rush into its ranks that would

speedily bring its emoluments down to par. If physicians find their reward too little, fewer students will seek the doctorate. If all physicians were equally well qualified, and all communities equally well satisfied individually, doctors might become the salaried servants of society. But society pecuniarily would, on the average, gain nothing by the change, for it pays now the same average and no more.

Take any large city, and it will be found that, taken together, the pay received by physicians is not more than that received by any other class, where intelligence is required in business. There are but very few physicians, in town or country, whose income is in excess of the better class of salesmen and bookkeepers in mercantile houses. A very few have large incomes from extensive business and liberal fees—*rari nantes in gurgite vasto.* Of these lucky ones, there are two classes: The mere speculators in disease, the Jim Fisks of the craft; the really meritorious, because educated, sagacious and skillful. These get their large incomes on the simple politico-economical law of supply and demand.

Daniel Webster is said to have replied to a young man who asked him if he thought the legal profession was overcrowded, "There is room enough in the upper stories." Great lawyers, or those with great reputations, ask and receive enormous fees sometimes, yet the pay of lawyers as a class is probably not superior to that of physicians, or any other of the educated or even intelligent classes.

A great artist can demand and get almost any price for his picture or statue, whereas his less fortunately endowed brother in the craft can get little or nothing for the picture or statue he has worked half his lifetime in developing.

It was an Irishman who complained that the railroad charged him as much for riding an hour, as it cost him to ride in a stage-coach all day. Another one who had a diseased molar extricated from its socket deftly by a dentist in a few seconds, demurred to the charge of a dollar, because, on a previous occasion, another dentist charged only half a dollar, although he had been over an hour performing a similar operation, meanwhile dragging him all around the room by the turnkey.

The physician who by a prescription, written in a few minutes, saves a patient's life, or a long siege of sickness, is entitled to

little or nothing, compared to the one who with less natural ability, tact, education, and experience, doing his best, even, loses the life, or fails to prevent long and dangerous illness! Such is the necessary inference from the jeremiad of "Dr." Holland.

But space and time forbid our devoting any more thought to this literary chiffonier.

The Right of Petition.

In the war against one of the Municipal Boards, recently inaugurated in this much governed city, the Board of Trade, by its petition to the Legislature, for the abolition of one board, has set an example to the medical profession, which might be followed with great advantage by a similar petition, for the abolition of another, the Board (miscalled) of Health. If there is a single respectable physician in Chicago, outside of the Health Department, who can be found to sustain this monument of inefficiency, we shall be most happy to hear from him in its defense. We have been at some pains to ascertain the opinions of professional men upon this subject, and find the unanimous verdict to be one of condemnation, (varied, only, as to orthography.)

The people look to their physicians for advice in matters pertaining to health, and it is not enough for each to care for the health of his patients individually. Something he owes to society in its aggregate. The great mass of the populace is incapable of protecting its own health, and for this must the medical profession speak, when governments neglect their duty.

The condition of our city, in view of prospective danger to public health during the coming summer, is truly alarming, and demands the immediate action of the profession, not only as guardians of public health, but as citizens, whose lives are endangered, as are the lives of those who are near and dear to them. The Chicago public, with all its faults, is immensely charitable, long suffering and forgiving. It suffered the large mortality of 1872, costing, for weeks together, the life of one of its citizens every thirty minutes, it forgave these disastrous results, to the Board of Health, pleading the general demoralization consequent upon the fire as its excuse. The fire is an incident of the past. Commerce, trade, the arts, have revived, have acquired increased strength from disaster, and flourish with a vigor unknown before.

The organization constituted for the preservation of the public health, has exhibited only an increase of vis inertiæ, with which to meet the increased demands upon its sanitary nescience and administrative and executive inability.

The JOURNAL has been, during nearly six years, a silent observer of the revolution of this municipal grindstone, and of the clumsy efforts at axe-grinding made thereupon. "Turn about is fair play," even in grinding axes, and it would seem to be the public's turn now. If the public will only examine this machinery, it will be found especially adapted to private, not to public uses; for such ends it was designed, and to such it has been diligently applied, from the beginning.

The time has arrived when silence is almost equivalent to participation in guilt. The time has come for the medical profession as a body to speak openly its true sentiments, in denunciation of this legislative abortion, this miscalled Board of Health, to counsel the public to petition the legislature to revoke the acts of its predecessor, to abate this greatest of all nuisances, which has so long been a burlesque upon sanitary science, a disgrace to the city, and has now become imminently dangerous to public health. H.

The Thirtieth Annual Commencement Exercises of Rush Med. College

Were held in Central Hall, corner Wabash Av. and 22nd St., on Wednesday evening, Feb. 19, 1873. A crowded audience room bore witness to the interest manifested by physicians and the friends of the College. The Rt. Rev. Bishop Foley opened the exercises with prayer, after which Professor Freer, President of the College, conferred the diplomas on the following gentlemen, who had complied with the rules and regulations of the College for the secural of the degree of Doctor in Medicine:

1. J. I. Ashbaugh.
2. Franklin Bedford.
3. W. H. Battin.
4. J. M. Barclay.
5. H. C. Bostwick.
6. J. B. Browning.
7. C. C. Birney.
8. J. H. Cristler.
9. C. H. Carey.
10. E. B. Crommett.
11. F. B. Corbett.
12. C. M. Dodge.
13. W. L. Duffin.
14. E. M. Enfield.
15. D. W. Edmiston.
16. J. W. Evans.
17. John Grass.
18. C. V. Von Hiddessen.
19. W. A. Horton.
20. C. H. Hamilton.
21. W. J. Hart.
22. A. J. Hynds.
23. F. A. Hess.
24. C. F. King.
25. E. A. Kittell.
26. J. A. Kettring.
27. M. H. Luken.
28. F. E. Lewis.
29. N. A. Loofbourow.
30. G. B. Little.
31. C. L. Myers.
32. P. M. Mendenhall.
33. Geo. McCulloch.

34. M. G. McLean.
35. J. H. Mear.
36. O. C. Oliver.
37. D. W. Pearson.
38. W. W. Rurk.
39. G. W. Reynolds.
40. H. R. Riddle.
41. M. G. Sloan.
42. F. E. Sherman.
43. F. Shimonek.
44. J. F. Shaefer.
45. C. H. Smith.
46. J. J. Stone.
47. G. D. Swaine.
48. E. R. Smith.
49. J. N. Starr.
50. D. M. Slemmons.
51. K. T. Stabeck.
52. M. Shoemaker.
53. J. S. Thompson.
54. R. N. Turner.
55. H. J. Thomas.
56. W. W. Wood.
57. J. G. Walker.
58. E. B. Weston.
59. G. C. Wellner.
60. H. A. Winter.
61. J. T. Walker.

POST-MORTEM DEGREE—Sanford O. Alford.

HONORARY DEGREE—A. Reeves Jackson, M.D., and Philip Adolphus, M.D., of Chicago; Chas. L. Allen, M.D., of Rutland, Vt., and Thomas O. Catlen, M.D., of New York City.

In accordance with a long established custom, the President then delivered his annual address to the class. He commended them for their high scholarship, excellent deportment, and uniform courtesy to their teachers, congratulating them on having so successfully and creditably passed their final examinations. Their attention was seriously called to the fact that they must *study*, all their lives, keeping up with the latest developments of the profession, must buy books and instruments so far as their means allow, not forgetting to own, soon as possible, their microscope and become adepts in its use.

At the conclusion of the President's address, Dr. E. R. Smith, on behalf of the class, delivered the class valedictory, thanking the Faculty for what they had done for them, and promising unswerving fidelity to their Alma Mater.

Adjunct Prof. Walter Hay, M.D., was then introduced, and proceeded to deliver an unusually pleasing address, replete with the advice of a mature experience, elegantly expressed. Our space admits only of quoting one of the most exquisite perorations it has been our good fortune to listen to:

"To-day terminates the period of your pupilage, but not of your student life; that is just begun, and you have been looking forward to the commencement day as to the beginning of a new era in your lives, in which you would be no longer medical students. Many years ago I used to stand at the gateway of a noble old mansion in a far distant State, beneath the shade of a grand old aspen tree upon whose glistening bark the scholarly owner had carved in bold Roman characters the single word 'Vale'; and when I passed through that gateway out upon the dusty highway beyond, the quivering leaves of the aspen overhead seemed to whisper 'Vale.' To-night I seem to stand, like that old tree, at the threshold of your Alma Mater, to say to you in the name of the faculty of Rush Medical College, 'Vale,' Farewell. On the other side of that tree was another word which greeted the eye of the guest about to enter those hospitable shades, and that word I repeat to you in the name of the medical profession, whose doors are now open to you, 'Salve,' Welcome."

A large, beautiful desk was then presented to Prof. Allen by the class, Graduate Frank E. Lewis, M.D., making the presentation speech. Dr. Allen received the keys with one of his happy speeches, showing unmistakable signs of not having had any time to prepare a little extemporaneous (!) speech for the occasion.

After the benediction by Bishop Foley, the audience dispersed.

J. H. ETHERIDGE, *Asst. Sec. R. M. C.*